

A new ORCHARD, and GARDEN;

OR,

The best way for Planting, Grafting, and to
make any ground good, for a rich Orchard: Particularly
in the North, and generally for the whole Kingdom of *England*,
as in nature, reason, situation, and all probability, may and doth appear.

With the Country-houswives Garden for Herbs of common use:
their Vertues, Seasons, Profits, Ornaments, variety of Knots, Models for
Trees, and Plots for the best ordering of Grounds and Walks.

AS ALSO,

The Husbandry of Bees, with their severall Uses and Annoyances,

*All being the experience of Forty and eight yeers labour, and now the second
time corrected and much enlarged, by WILLIAM LAWSON.*

Whereunto is newly added the Art of Propagating Plants; with
the true ordering of all manner of Fruits, in their gathering,
carrying home, and preservation.

Skill and pains, bring fruitful gains.



Nemo sibi natus.


London, Printed by *W. Wilson*, for *John Harison*; and are to be sold
at his Shop in *Pauls Church-yard*. 1648.

OF THE GARDEN



To the Right Worshipful
Sir *HENRY BELLOSES*,
Knight and Baronet.

Worthy Sir,

hen in many yeers by long experience I had furnished this my Northern Orchard and Country-garden with needful Plants and useful Herbs, I did impart the view thereof to my friends, who resorted to me to confer in matters of that nature; they did see it, and seeing, it desired; and I must not deny now the publishing of it, (which then I allotted to my private delight) for the publike profit of others. Wherefore, though I could plead Custom, the ordinary excuse of all Writers, to chuse a Patron and Protector of their Works, and so shroud my self from scandal

The Epistle Dedicatory.

under your honourable favour ; yet have I certain reasons to excuse this my presumption : First , the many courtesies you have vouchsafed me. Secondly , your delightful skill in matters of this nature. Thirdly , the profit which I received from your learned Discourse of Fruit trees. Fourthly , your animating and assisting of others to such endeavours. Last of all , the rare work of your own in this kinde : all which to publish under your protection , I have adventured (as you see.) Vouchsafe it therefore entertainment , I pray you , and I hope you shall finde it not the unprofitablest servant of your retinue . For when your serious employments are over-passe , it may interpose some commodity , and raise your contentment out of variety.

Your Worships

most bounden,

WILLIAM LAWSON.



THE PREFACE,

To all well minded.

ARt hath her first original out of Experience, which therefore is called The School-mistress of Fools, because she teacheth infallibly, and plainly; as drawing her knowledge out of the course of Nature, (which never fails in the general) by the Senses, feelingly apprehending, and comparing (with the help of the Minde) the Works of Nature; and as in all other things natural, so especially in Trees: For what is Art more then a provident and skilful Correctrix of the faults of Nature in particular works, apprehended by the Senses? As when good ground naturally brings forth Thistles, trees stand too thick, or too thin, or disorderly, or (without dressing) put forth unprofitable Suckers, and such-like; all which, and a thousand more, Art reformateth, being taught by Experience: and therefore must we count that Art the surest, that stands upon Experimental Rules, gathered by the rule of Reason (not Conceit) of all other rules the surest.

Whereupon have I, of my meere and sole Experience, without respect to any former-written Treatise, gathered these Rules, and set them down in writing, not daring to hide the least talent given me of my Lord and Master in heaven. Neither is this injurious to any, though it differ from the common opinion in divers points, to make it known to others; what good I have found out in this faculty

The Preface.

culty by long trial and experience. I confesse freely my want of curious skill in the art of Planting: and I admire and praise Plinie, Aristotle, Virgil, Cicero, and many others, for wit and judgement in this kinde, and leave them to their times, manner, and several Countries.

I am not determin'd (neither can I worthily) to set forth the praises of this Art: howsome, and not a few, even of the best, have account'd it a chief part of earthly happinesse, to have fair and pleasant Orchards, as in *Hesperia* and *Thessaly*; how all with one consent agree, that it is a chief part of Husbandry, (as *Tully de senectute*) and Husbandry maintains the world: how ancient, how profitable, how pleasant it is; how many secrets of Nature it doth contain, how leaved, how much practis'd in the best places, and of the best. This hath already been done by many: I only aim at the Common good. I delight not in curious conceits, as planting and grafting with the root upwards, inoculating Roses on Thorns, and such-like, although I have heard of divers, proved some, and read of more.

The Stationer hath (as being most desirous, with me, to further the common good) bestowed much cost and care in having the Knots and Models by the best Artisan cut in great variety, that nothing might be any way wanting to satisfy the curious desire of those that would make use of this Book.

And I shew a plain and sure way of planting, which I have found good by 48 years (and more) experience in the North part of England. I prejudicate and enuyn none; wishing yet all to abstain from maligning that good (to them unknown) which is well intended. Farewell.

Thine, for thy good, W. L.

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THE BEST, SVRE AND READIEST WAY

to make a good Orchard and Garden.

CHAPTER. I.

Of the Gardner, and his Wages.

WHosoever desireth & endeavoureth to have a pleasant, and profitable Orchard, must (if he be able) provide himself of a Fruiterer, religious, honest, skilful in that faculty, & therewithall painfull: By religious, I meane (because many think religion but a fashion or custom to goto Church) maintaining, & cherishing things religious: as Schooles of learning, Churches, Tythes, Church goods, & rights; and above all things, Gods word, & the Preachers thereof, so much as he is able, practising prayers, comfortable conference, mutuall instruction to edifie, almes, and other works of Charity, & all out of a good conscience.

Honesty in a Gardner, will grace your Garden, and all your house, and helpe to stay unbridled Servingmen, giving offence to none, not calling your name into question by dishonest acts, nor infecting your family by evill counsell or example. For there is no plague so infectious as Popery and knavery, he will not purloine your profit, nor hinder your pleasures.

Concerning his skill, he must not be a Scolist, to make shew or take in hand that, which he cannot performe, especially in so weighty a thing as an Orchard:

than the which there can be no humane thing more excellent, either for pleasure or profit, as shall (God willing) be proved in the treatise following. And what an hinderance shall it be, not onely to the owner, but to the common good, that the unspeakable benefit of many hundred yeeres shall be lost, by the audacious attempt of an unskilfull Arborist?

Painfull.

The Gardener had not need be an idle, or lazie Lubber, for so your Orchard being a matter of such moment, will not prosper. There will ever be some thing to doe. Weedes are alwaies growing. The great mother of all living Creatures, the Earth, is full of seed in her bowels, and any stirring gives them heat of Sunne, and being laid neere day, they grow: Mowles worke daily, though not alwaies alike. Winter herbes at all times will grow (except in extreame frost.) In Winter your trees and herbes would be lightned of snow, and your Allyes cleansed: drifts of snow will set Deere, Hares, and Conyes, and other noysome beasts over your walles & hedges into your Orchard. When Summer cloathes your borders with greene and peckled colours, your Gardener must dresse his hedges, and antick workes: watch his Bees, and hive them: distill his Roses and other herbes. Now begin Summer Fruits to ripe, and crave your hand to pull them. If he have a Garden (as he must need) to keepe, you must needs allow him good helpe, to end his labours which are endlesse, for no one man is sufficient for these things.

Wages.

Such a Gardener as will conscionably, quietly and patiently, travell in your Orchard, God shall crowne the labours of his hands with joyfulness, and make the clouds drop fannesse upon your trees, he will provoke your love, and earne his wages, and fees belonging to

his



his place: The house being served, fallen fruit, superfluity of herbes, and flowers, seedes, grasses, sets, and besides other al of, that fruit which your bountifull hand shall reward him withall, will much augment his wages and the profit of your bees will pay you backe againe.

If you be not able, nor willing to hire a gardner, keepe your profits to your self, but then you must take all the pains: And for that purpose (if you want this faculty) to instruct you, have I undertaken these labours, and gathered these rules, but chiefly respecting my Countreys good.

CHAP. 2.

Of the soyle.

THese Ruir-trees most common, and meetest for our Northerne Countreys: (as Apples, Peares, Cheries, Filberds, red and white Plummes, Damsons, and Bullis,) for we meddle not with Apricockes nor Peaches, nor scarcely with Quinces, which will not like in our cold parts, unlesse they be helped with some reflex of Sunne, or other like meanes, nor with bushes, bearing berries, as Barberies, Goose-berries, or Grofers, Raspe berries, and such like, though the Barbery be wholesome, and the tree may be made great: doe require (as all other trees doe) a blacke, fat, mellow, cleane and well tempered soyle, wherein they may gather plenty of good sap. Some thinke the Hasell would have a chanily rocke, and the fallow, and ellers a waterish marish. The soyle is made better by delving, and other meanes, being well melted, and the wildnesse of the earth and weedes (for every thing subject to man, and serving his use (not well ordered, is by nature sub-

Kinds of trees.

Soyle.

ject to the curse,) is killed by frosts and drought by fallowing and laying on heapes, and if it be wild earth, with burning.

Barren earth.

If your ground be barren (for some are forced to make an Orchard of barren ground) make a pit three quarters deepe, and two yards wide, and round in such places where you would set your trees, & fill the same with fat, pure, & mellow earth, one whole foot higher then your Soile, and therein set your Plant. For who is able to manure an whole Orchard plot, if it be barren? But if you determine to manure the whole site, this is your way: digge a trench halfe a yard deepe, all along the lower (if there be a lower) side of your Orchard plot, casting up all the earth on the inner side, and fill the same with good, short, hot & tender muck, & make such another Trench, and fill the same as the first, and so the third, and so through out your ground. And by this means your plot shall be fertile for your life. But be sure you set your trees, neither in dung nor barren earth.

Plaine.

Your ground must be plaine, that it may receive, and keepe moysture, not only the raine falling thereon, but also water cast upon it, or descending from higher ground by sluices, Conduits, &c. For I account moisture in summer very needfull in the soil of trees, & drought in Winter. Provided, that the ground neither be boggy nor the inundation be past 24. houres at any time, and but twice in the whole Summer, and so oft in the Winter. Therefore if your plot be in a Banke, or have a descent, make Trenches by degrees, Allyes, Walkes, and such like, so as the Water may be stayed from passage; & if too much water be any hinderance to your walks (for dry walks doe well become an Orchard, and an Orchard them :) raise your walks with earth first, and then

Moyst.

then with stones, as big as Walnuts : and lastly, with gravel. In Summer you need not doubt too much water from heaven, either to hurt the health of your body, or of your trees. And if over-flowing molest you after one day, avoid it then by deep trenching.

Some for this purpose dig the soil of their Orchard, to receive moisture, which I cannot approve : for the roots with digging are oftentimes hurt, and especially being digged by some unskilful servant : for the Gardener cannot do all himself. And moreover, the roots of Apples and Pears, being laid neer day, with the heat of the Sun, will put forth suckers, which are a great hinderance, and sometimes, with evil guiding, the destruction of trees, unlesse the delving be very shallow, and the ground laid very level again. Cherries and Plums, without delving, will hardly or never (after twenty years) be kept from such suckers, nor Asps.

Grasse also is thought needful for moisture, so you let it not touch the roots of your trees ; for it will breed mosse : and the boal of your tree neer the earth, would have the comfort of the sun and air. Grasse.

Some take their ground to be too moist when it is not so, by reason of water standing thereon ; for except in lowre marshes, springs, and continual over-flowings, no earth can be too moist. Sandy and fat earth will avoid all water falling, by receipt : indeed a stiff clay will not receive the water, and therefore if it be grassie or plain, especially hollow, the water will abide, and it will seem waterish, when the fault is in the want of manuring, and other good dressing.

This plainnesse which we require, had need be natural, because to force an uneven ground, will destroy the fatnesse : for every soil hath his crust next day, wherein

Naturally
plain.

Crust of the
earth.

trees and herbs put their roots, and whence they draw their sap, which is the best of the soil, and made fertile with heat and cold, moisture and drought, and under which, by reason of the want of the said temperature, by the said four qualities, no tree nor herb (in a manner) will or can put root: as may be seen, if in digging your ground, you take the weeds of most growth; as grasse or docks (which will grow, though they lie upon the earth bare) yet bury them under the crust, and they will surely die & perish, and become manure to your ground. This crust is not past 15 or 18 inches deep in good ground, or other grounds lesse. Hereby appears the fault of forced plains, *viz.* your crust in the lower parts, is covered with the crust of the higher parts, and both with worse earth: your hights having the crust taken away, are become meetly barren: so that either you must force a new crust, or have an evil soil. And be sure you level, before you plant, lest you be forced to remove, or hurt your plants by digging, and casting among their roots. Your ground must be cleared, as much as you may, of stones, and gravel, walls, hedges, bushes, & other weeds.

CHAP. III.

Of the Site.



Here is no difference, that I finde, betwixt the necessity of a good soil, and a good Site of an Orchard. For a good soil (as is before described) cannot want a good Site; and if it do, the fruit cannot be good; and a good site will much amend an evil soil. The best site is in lowe grounds, and (if you can) neer unto a River. High grounds are not naturally fat.

Lowe, and neer
a River.

And

And if they have any fatnesse by mans hand, the very descent in time doth wash it away. Tis with grounds in this case, as it is with men in a Common-wealth : Much will have more : and once poor, seldom or never rich. The rain will scind and wash, and the winde will blowe fatnesse from the hights to the hollows, where it will abide, and fatten the earth, though it were barren before.

Hence it is, that we have seldom any plain grounds, and lowe, barren ; and as seldom any hights naturally fertile. It is unspeakable, what fatnesse is brought to lowe grounds by inundations of waters : neither did I ever know any barren ground in a lowe plain by a River side. The goodnesse of the soil in *Howle* or *Hollowdernes* in *York-shire*, is well known to all that know the River *Humber*, and the huge bulks of their Cattel there. By estimation of them that have seen the low grounds in *Holland* and *Zealand*, they far surpass the most countries in *Europe* for fruitfulnessse, and onely because they lie so lowe. The world cannot compare with *Egypt* for fertility, so far as *Nylus* doth over-flow his banks. So that a fitter place cannot be chosen for an orchard, then a low plain by a river side. For besides the fatnesse which the water brings, if any cloudy mist or rain be stirring, it commonly falls down to, and follows the course of the River. And where see we greater trees of bulk and bough, then standing on or neer the water side ? If you ask why the plains in *Holdernes* and such Countries, are destitute of woods : I answer, that men & cattel (that have put trees thence, from out of plains to void corners) are better then trees. Neither are those places without trees. Our old fathers can tel us how woods are decayed, & people in the room of trees

Psal. 1. 3.
Ezek. 17. 8.
Eccles. 39. 17.

Mr. Markham

VVindes.
Chap 13.

multipli'd. I have stood somewhat long in this point, because some do condemn a moist soil for Fruit-trees.

A low ground is good to avoid the danger of windes, both for shaking down your unripe fruit. Trees the most (that I know) being loaden with wood, for want of proyning, and growing high, by the unskilfulnesse of the Arborist, must needs be in continual danger of the South-west, West, and North-west windes, especially in *September* and *March*, when the air is most temperate from extreme heat and cold, which are deadly enemies to great windes. Wherefore chuse your ground lowe: Or if you be forced to plant in a higher ground, let high and strong walls, houses, and trees, as Wall-nuts, Plane-trees, Oaks, and Ashes, placed in good order, be your fence for Windes.

The sucken of your dwelling-house, descending into your Orchard, if it be cleanly conveyed, is good.

Sun.

The Sun, in some sort, is the life of the world: it maketh proud growth, and ripens kindly and speedily, according to the golden term, *Annus fructificat, non tellus*. Therefore in the Countries neerer approaching the Zodiak, the Suns habitation, they have better, and sooner ripe fruit, then we that dwell in these frozen parts.

Trees against
a wall.

This provoketh most of our great Arborists to plant Apricocks, Cherries and Peaches, by a wall, and with tacks, and other means to spread them upon, and fasten them to a wall, to have the benefit of the immoderate reflex of the Sun, which is commendable, for the having of fair, good, and soon ripe fruit. But let them know, it is more hurtful to their trees then the benefit they reap thereby, as not suff. ing a tree to live the tenth part of his age: it helps Gardeners to work. For first, the wall

wall hinders the roots; because unto a dry and hard wall of earth or stone, a tree wil not nor cannot put any root to profit; but specially it stops the passage of sap, whereby the bark is wounded, & the wood, & diseases grow, so that the tree becoms short of life. For as in the body of a man, the leaning or lying on some member, whereby the course of blood is stoppt, makes that member as it were dead for the time, till the blood return to his course, and I think, if that stopping should continue any time, the member would perish for want of blood, (for the life is in the blood) & so endanger the body: so the sap is the life of the tree, as the blood is to mans body: neither doth the tree in winter (as is supposed) want his sap, no more then mans body his blood, which in winter & time of sleep, draws inward: so that the dead time of winter, to a tree, is but a night of rest: for the tree at all times, even in winter, is nourish'd with sap & growth as well as mans body. The chilling cold may well some little time stay or hinder the proud course of the sap, but so little & so short a time, that in calm & mild seasons, even in the depth of winter, if you mark it, you may easily perceive the sap to put out, and your trees to increase their buds which were formed in the summer before, & may easily be discerned; for leaves fall not off, til they be thrust off with the knots or buds: whereupon it comes to passe, that trees cannot bear fruit plentifully two yeers together, and make themselves ready to blossom against the seasonableness of the next Spring.

And if any frost be so extreme, that it stay the sap too much, or too long, then it kills the forward fruit in the bud, and sometimes the tender leaves and twigs, but not the tree: Wherefore, to return, it is perillous to stop the sap. And where, or when, did you ever see a great tree packt

packt on a wall? Nay, who did ever know a tree so unkindly splat, come to age? I have heard of some, that out of their imaginary cunning, have planted such trees, on the North-side of the wall, to avoid drought: but the heat of the Sun is as comfortable (which they should have regarded) as the drought is hurtful. And although water is a sovereign remedy against drought, yet want of Sun is no way to be helped. Wherefore, to conclude this Chapter, let your ground lie so, that it may have the benefit of the South and West Sun, and so low and close, that it may have moisture, and increase his fatnesse, (for trees are the greatest suckers and pillars of earth) and (as much as may be) free from great Windes.

CHAP. IIII.

Of the Quantity.



IT would be remembred what a benefit riseth, not onely to every particular owner of an Orchard, but also to the Common-wealth, by fruit, as shall be shewed in the 16 Chapter (God willing.) Whereupon must needs follow, the greater the orchard is (being good, & well kept) the better it is: for of good things, being equally good, the biggest is the best. And if it shall appear, that no ground a man occupieth (no, not the corn-field) yeeldeth more gain to the purse, and house-keeping (not to speak of the unspeakable pleasure) quantity for quantity, then a good Orchard, (besides, the cost in planting and dressing an Orchard, is not so much by far, as the labour and seeding of your Corn-fields, nor for durance of time comparable, besides the certainty of the one before the

Orchard as
good as a
Corn-field

the other) if see not how any labour or cost in this kinde can be idly or wastfully bestowed, or thought too much. And what other thing is a Vineyard, in those countries where Vines do thrive, then a large Orchard of trees bearing fruit? Or what difference is there in the juice of the grapes, and our syder and perry, but the goodness of the soil and climate where they grow? which maketh the one more ripe, & so more pleasant then the other. Whatsoever can be said for the benefit rising from an orchard, that makes for the largenesse of the Orchards bounds. And (methinks) they do preposterously, that bestow more cost and labour, and more ground in and upon a Garden, then upon an Orchard, whence they reap and may reap both more pleasure and more profit, by infinite degrees. And further, that a Garden, never so fresh, and fair, and well kept, cannot continue without both renewing of the earth and the herbs often, in the short and ordinary age of a man: whereas your Orchard well kept, shall dure divers hundred yeers, as shall be shewed *chap. 14.* In a large Orchard there is much labour saved, in fencing, and otherwise: for three little Orchards, or a few trees, being in a manner all out-sides, are so blasted and dangered, and commonly in keeping neglected, and require a great fence; whereas in a great Orchard, trees are a mutual fence one to another, and the keeping is regarded; and lesse fencing serves six acres together, then three in several inclosures.

Compared
with a Vine-
yard.

Compared
with a Garden.

Now what quantity of ground is meetest for an Orchard can no man prescribe, but that must be left to every mans several judgement, to be measured according to his ability and will, for other necessities besides fruit must be had, and some are more delighted with Orchards then others.

What quantity
of ground.

Let

Want is no
hinderance.

How Land-
lords by their
Tenants may
make flourish-
ing Orchards
in England.

Let no man, having a fit plot, plead poverty in this case, for an Orchard once planted, will maintain it self, and yeeld infinite profit beside. And I am perswaded, that if men did know the right and best way of planting, dressing, and keeping trees, and felt the profit and pleasure thereof, both they that have no Orchards, would have them, & they that have Orchards, would have them larger, yea fruit-trees in their hedges, as in *Worcester-shire, &c.* And I think, the want of planting is a great losse to our Common-wealth, and in particular, to the owners of Lordships, which Landlords themselves might easily amend, by granting longer term and better assurance to their tenants, who have taken up this Proverb, *Botch and sit, Build and sit*: for who will build or plant for another mans profit? Or the Parliament might enjoin every occupier of grounds to plant and maintain for so many acres of fruitful ground, so many several trees or kindes of trees for fruit. Thus much for quantity.

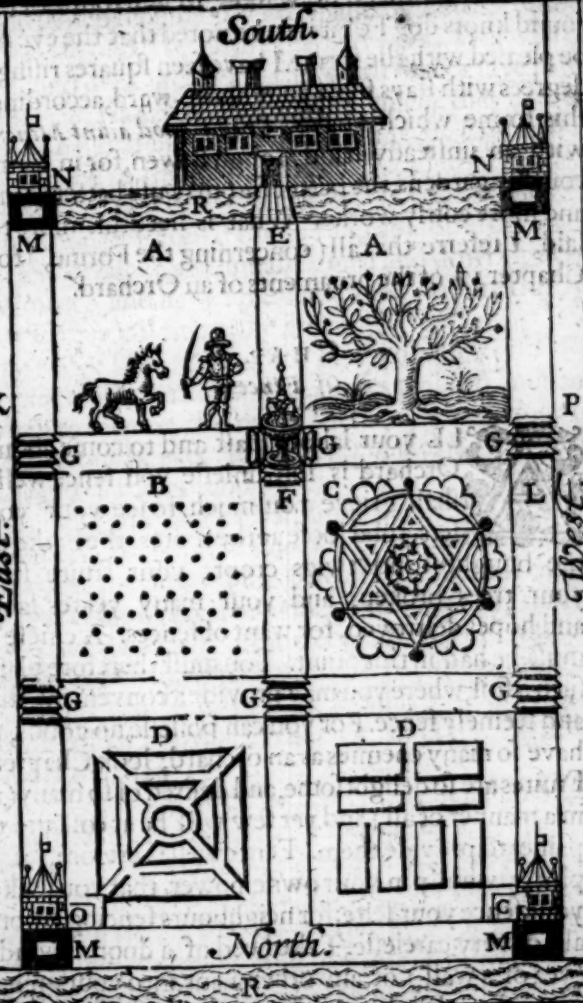
CHAP. V.

Of the Form.



He goodnesse of the soil and site, are necessary to the well-being of an Orchard simply; but the form is so far necessary, as the owner shall think meet. For that kinde of form wherewith every particular man is delighted, we leave it to himself, *Suum cuique pulchrum*. The form that men like in general, is a square: for although roundnesse be *forma perfectissima*, yet that principle is good where necessity by Art doth not force some other form. If within one large square the Gardener shall make one round Labyrinth or Maze with some kinde of Berries, it will grace your form, so there be sufficient

The usual
form is a
square.



A. All these squares must bee set with trees, the Gardens and other ornaments must stand in spaces betwixt the trees and in the borders and fences.

B. Trees 20. yards a sunder.

C. Garden Knots.

D. Kitchen garden.

E. Bridge.

F. Conduit.

G. Staires.

H. Walkes set with great wood thicke.

I. Walkes set with great wood round about your Orchard.

K. The out fence.

L. The out fence set with stone fruire.

M. Mount. To force earth for a mount, or such like set it round with quick, and lay boughes of trees strangely intermingled tops inward, with the earth in the middle.

N. Still-house.

O. Good standing for Bees, if you have an house.

P. If the river run by your doore and under your mount, it will be pleasant.

sufficient room left for walks, so will foure or more round knots do. For it is to be noted that the eye must be pleased with the forme. I have seen squares rising by degrees with stays from your house ward, according to this forme which I have, *Crassa quod aiunt Minerva*, with an unsteady hand, rough hewen, for in forming country gardens, the better sort may use better formes, and more costly worke. What is needfull more to be said, I referre that all (concerning the Forme,) to the Chapter 17. of the ornaments of an Orchard.

CHAP. 6.
Of Fences.



ALL your labour past and to come about an Orchard is lost unlessse you fence well. It shall grieve you much to see your young sets rubd loose at the rootes, the barkes pild, the boughes and twigs crompt, your fruite stolne, your trees broken, and your many yeares labours and hopes destroyed, for want of fences. A chiefe care must be had in this point. You must therefore plant in such a soil, where you may provide a convenient, strong and seemely fence. For you can possesse no goods, that have so many enemies as an orchard; look Chapter 13. Fruites are so delightfull, and desired of so many (nay, in a manner of all) and yet few will be at cost and take paines to provide them. Fence well therefore, let your plot be wholly in your owne power, that you make all your fence your selfe: for neighbours fencing is none at all, or very carelesse. Take heed of a door or window, (yea of a wall) of any other mans into your orchard: Let the fence be your own yea, though it be nayld up, or the wall be high, for perhaps

Effects of
evil fencing

Let the fence
be your own

perhaps they will prove theeves.

All Fences commonly are made of Earth, Stone, Kinds of fences, earthen walles. Bricke, Wood, or both earth and wood. Dry wall of earth, and dry Ditches are the worst fences save pales or railes, and doe waste the soonest, unless they be well copt with gloe and mortar, wheron at *Michaell-tide* it will be good to sow Wall-flowers, commonly called Bee-flowers, or winter Gilly-flowers, because they will grow (though amongst stones) and abide the strongest frost and drought, continually green and flowring even in Winter, and have a pleasant smell, and are tunely, (that is, they wil floure the first and last of flowers) and are good for Bees. And your earthen wall is good for Bees dry and warme. But these fences are both unseemly, evill to repaire, and onely for need, where stone or wood cannot be had. Whosoever makes such Walles, must not pill the ground in the Orchard, for getting earth, nor make any pits or hollowes, which are both unseemly and unprofitable. Old dry earth mixt with sand is best for these. This kind of wall will soone decay, by reason of the trees which grow neere it, for the routes and boales of great trees, will increase, undermine, and overturne such walls, though they were of stone, as is apparent by Ashes, Rountrees, Burt-trees, and such like, carried in the chat, or berry, by birds into stone walles.

Fences of dead wood, as pales, will not last, neither will railes either last or make good fence. Pale and Raile.

Stone walls (where stone may be had) are the best Stone walls. of this sort, both for fencing, lasting, and shrouding of your young trees. But about this must you bestow much paines and more cost, to have them handsome, high and durable.

But

Quicke wood
and Moates.

But of all other in (mine own opinion) Quickwood, and Moates or Ditches of water, where the ground is leuell, is the best fence. In unequall grounds, which will not keepe water, there a double ditch may be cast, made streight & level on the top, two yards broad for a faire walk, five or sixe foot higher then the soyle, with a gutter on either side, two yards wide, and foure foot deepe, set without with three or foure chesse of thorns and within with Cherry, Plumme, Damson, Bullys, Filbirds, (for I love these trees better for their fruit, and as well for their forme, as privit) for you may make them take any forme. And in every corner (and middle if you will) a mount would be raised, whereabout the wood may glasse, powdered with wood-binde: which will make with dressing a faire, pleasant, profitable, and sure fence. But you must be sure that your quick thorns either grow wholly, or that there be a supply betime, either planting new, or plashing the old where need is. And assure your selfe, that neither wood, stone, earth, nor water, can make so strong a fence, as this after seven years growth.

Moates.

Moates, Fish-ponds, and (especially at one side a River) within and without your fence, will afford you fish, fence, and moysture to your trees, and pleasure also, if they be so great and deepe that you may have Swans, and other water birds, good for devouring of vermine, and boat for many good uses.

It shall hardly auaile you to make any fence for your Orchard, if you be a niggard of your fruit. For as liberality will save it best from noysome neighbours, liberality I say is the best fence, so Iustice must restraine rioters. Thus when your ground is tempered, squared, and fenced, it is time to provide for planting.

CHAP.

CHAP. VII.

Of Sets.



Here is not one point (in my opinion) about an Orchard more to be regarded, then the choice getting and setting of good plants, either for readinesse of having good fruit, or for continual lasting: for whosoever shall fail in the choice of good Sets, or in getting, or gathering, or setting his plants, shall never have a good or lasting Orchard. And I take want of skill in this faculty, to be a chief hinderance to the most Orchards, and to many for having of Orchards at all.

Some for readinesse use slips, which seldom take roots, and if they do take, they cannot last, both because their root having a main wound will in short time decay the body of the tree: and besides, that roots being so weakly put, are soon nipt with drought or frost. I could never see (lightly) any slip, but of apples only, set for trees.

A Bur-knot kindly taken from an Apple-tree, is much better and surer. You must cut him close at the root end, an handful under the knot: (Some use in Summer about Lammes to circumsse him, and put earth to the knots with hay-soaps, &c. in winter cut him off and set him, but this is curiosity needlesse, and danger with removing and drought) and cut away all his twigs save one, the most principal, which in setting you must leave above the earth, burying his trunk in the crust of the earth for his root. It matters not much what part of the bough the twig grows out of. If it grow out of

Bur-knot.

or neer the root end, some say such an Apple will have no core nor kimmel. Or if it please the Planter, he may let his bough be crooked, and leave out his top end one foot, or somewhat more, wherein will be good grafting; if either you like not, or doubt the fruit of the bough, (for commonly your bur-knots are Summer-fruit) or if you think he will not cover his wound safely.

Usual Sets

The most usual kinde of Sets, are plants with roots growing, of kemels of Apples, Pears, and Crabbs, or stones of Cherries, Plums, &c. removed out of a Nursery, Wood, or other Orchard, into, and set in your Orchard in their due places. I grant this kind to be better then either of the former by much, as more sure and more durable. Herein you must note, that in sets so removed, you get all the roots you can, and without bruising of any. I utterly dislike the opinion of those great Gardners, that following their books, would have the main roots cut away: for tops cannot grow without roots. And because none can get all the roots, and removal is an hinderance, you may not leave on all tops,

Main roots
cut.

Stow Sets
removed.

when you set them: For there is a proportion betwixt the top & root of a tree, even in the number (at least) in the growth. If the roots be many, they will bring you many tops, if they be not hindred. And if you use to stow or top your tree too much or too lowe, & leave no issue, or little for sap, (as is to be seen in your hedges) it will hinder the growth of roots and boal, because such a kinde of stowing is a kinde of smothering or choaking the sap. Great wood, as Oak, Elm, Ash, &c. being continually kept down with sheers, knife, ax, &c. neither boal nor toot will thrive, but as an hedge or bush. If you intend to graff in your Set, you may cut him closer with a greater wound, and neerer the earth, within a

foot

foot or two, because the graft or grafts will cover his wound. If you like his fruit, and would have him to be a tree of himself, be not so bold. This I can tell you, that though you do cut his top close, and leave nothing but his bulk, because his roots are few, if he be (but little) bigger than your thumb. (As I wish all plants removed to be) he will safely recover wound within seven years, by good guidance, that is, if the next time of dressing, immediately above his uppermost sprig, you cut him off aslope cleanly, so that the sprig stand on the back-side, (and if you can, Northward, that the wound may have the benefit of the Sun) at the upper end of the wound; and let that sprig only be the boal. And take this for a general rule; Every young plant, if he thrive, will recover any wound above the earth, by good dressing, although it be to the one half, and to his very heart. This short cutting at the remove, saves your plants from winde, and need the lesse or no staking. I commend not lying or leaning of trees against holds or stays; for it breeds obstruction of sap, and wounds incurable. All removing of trees as great as your arm, or above, is dangerous; though sometime some such will grow, but not continue long, because they be tainted with deadly wounds, either in the root or top: (and a tree once thorowly tainted, is never good.) And though they get some hold in the earth with some lesser taw or taws, which give some nourishment to the body of the tree; yet the heart being tainted, he will hardly ever thrive; which you may easily discern by the blacknesse of the boughs at the heart, when you dresse your trees. Also, when he is set with more tops than the roots can nourish, the tops decaying, blacken the boughs, and the boughs the arms,

General rule.

Tying of trees.

General rule.

Signes of diseases, chap. 13.

and so they boile at the very heart. Or this taint in the removal, if it kill not presently; but after some short time, it may be discerned by blacknesse or yellownesse in the bark, and a small hungred leaf. Or if your removed plant put forth leaues the next & second Summer, and little or few spraes, is a great signe of a taint; and next yeers death. I have known a tree tainted in setting, yet grow, and bear blossoms for diuers yeers; and yet for want of strength could neuer shape his fruit.

Suckers good
sets.

Next unto this, or rather equal with these plants, are suckers growing out of the roots of greater trees, which Cherries and Plums do seldom or neuer want: and being taken kindly with their roots, will make very good sets. And you may help them much by enlarging their roots with the saws of the tree whence you take them. They are of two sorts: Either growing from the very root of the tree: and here you must be careful, not to hurt your tree when you gather them, by ripping amongst the roots; and that you take them clean away: for these are a great and continual annoyance to the growth of your tree; and they will hardly be cleansed. Secondly, or they do arise from some saw: and these may be taken without danger, with long and good roots, and will soon become trees of strength.

A running-
plant.

There is another way, which I have not thorowly proved, to get not onely plants for grafting, but sets to remain for trees, which I call a *running plant*: the manner of it is thus: Take a root or kirmel, and put it into the middle of your plot; and the second yeer in the Spring, geld his top, if he have one principal, (as commonly by nature they have) and let him put forth onely four cyons toward the four corners of the Orchard, as neer the earth as you can. If he put not four, (which

(which is rare) stay his top till he have put so many. When you have such four, cut the stock aslope, as is aforesaid in this Chap. hard above the uppermost sprig, and keep those four without cyons clean and streight, till you have them a yard and a half, at least, or two yards long. Then the next Spring, in grafting-time, lay down those four sprays, towards the four corners of your Orchard, with their tops in a heap of pure and good earth, and raised as high as the root of your cyon, (for sap will not descend) and a sod to keep them down, leaving nine or twelve inches of the top to look upward. In that hill he will put roots, and his top new cyons, which you must spread as before, and so from hill to hill, till he spread the compasse of your ground, or as far as you list. If, in bending, the cyons crack, the matter is small; cleanse the ground, and he will recover. Every bended bough will put forth branches, and become trees. If this plant be of a Bur-knot, there is no doubt: I have proved it in one branch my self: and I know at *Wilton* in *Cleveland*, a Pear-tree of a great bulk and age, blown close to the earth, hath put at every knot roots into the earth, and from root to top, a great number of mighty arms or trees, filling a great room, like many trees, or a little Orchard. Much better may it be done by Art, in a lesse tree. And I could not mislike this kinde, save that the time will be long before it come to perfection.

Many use to buy sets already grafted; which is not *Sets bought.* the best way: for first, all removes are dangerous: again, there is danger in the carriage: Thirdly, it is a costly course of planting: Fourthly, every Gardener is not trusty to sell you good fruit: Fifthly, you know not which is best, which is worst, and so may take most care about
C 3 your

your worst trees. Lastly, this way keeps you from practice, and so from experience, in so good, Gentlemanly, Scholerlike, and profitable a facultie.

The best sets.

Unremoved.
How.

The onely best way (in my opinion) to have sure and lasting sets, is never to remove: for every remove is a hinderance, if not a dangerous hurt or deadly taint. This is the way: The plotform being laid, and the plot appointed where you will plant every set in your Orchard, dig the room where your set shall stand, a yard compasse, and make the earth mellow and clean, and mingle it with a few cole-ashes, to avoid worms; and immediately after the first change of the Moon, in the later end of *February*, the earth being afresh turned over, put in every such room three or four kernels of Apples or Pears of the best; every kernel in an hole made with your finger, finger-deep, a foot distant one from another; and that day month following, as many more, (lest some of the former misse) in the same compasse, but not in the same holes. Hence (God willing) shall you have roots enough. If they all, or divers of them come up, you may draw (but not dig) up (nor put down) at your pleasure, the next *November*. How many soever you take away, to give or bestow elsewhere, be sure to leave two of the proudest. And when in your second or third yeer you graff, if you graff then at all, leave the one of those two ungrafted, lest in grafting the other you fail: For I finde by trial, that after the first or second grafting in the same stock, being misst, (for who hits all?) the third misse puts your stock in deadly danger, for want of issue of sap. Yea, though you hit in grafting, yet may your grafts with winde or otherwise be broken down. If your grafts or graft prosper, you have your desire, in a plant unremoved,

without

without taint, and the fruit at your own choice, and so you may (some little earth being removed) pull, but not dig up the other Plant or Plants in that room. If your graft, or stock, or both perish, you have another in the same place, of better strength, to work upon: for thriving without snub, he will over-lay your grafted stock much. And it is hardly possible to misse in grafting so often, if your Gardener be worth his name.

It shall not be amisse (as I judge it) if your kernels be of choice fruit, and that you see them come forward proudly in their body, and bear a fair and broad leaf in colour, tending to a greenish yellow, (which argues pleasant and great fruit) to try some of them ungrafted: for although it be a long time ere this come to bear fruit, ten or twelve yeers, or more; and at their first bearing, the fruit will not seem to be like his own kind; yet am I assured, upon trial, before twenty yeers growth, such trees will increase the bignesse and goodnesse of their fruit, and come perfectly to their own kinde. Trees (like other breeding creatures) as they grow in yeers, bignesse and strength, so they mend their fruit. Husbands and Houfwives finde this true by experience, in the rearing of their young store. More then this, there is no tree like this for soundnesse and durable last, if his keeping and dressing be answerable. I grant, the readiest way to come soon to fruit, is grafting; because, in a manner, all your grafts are taken off fruit-bearing trees.

Sets ungrafted
best of all.

Now when you have made choice of your sets to remove, the ground being ready, the best time is, immediately after the fall of the leaf, in or about the change of the Moon, when the sap is most quiet; for then the sap is turning; for it makes no stay, but in the extremi-

Time of re-
moving.

General rule.

ty of drought or cold. At any time in winter, may you transplant trees, so you put no ice nor snow to the root of your plant in the setting: and therefore open, calm, and moist weather is best. To remove, the leaf being ready to fall, & not fallen, or buds apparently put forth in a moist warm season, for need, sometime may do well; but the safest is to walk in the plain troden path.

Some hold opinion, that it is best removing before the fall of the leaf; and I hear it is commonly practised in the South by our best Arborists, the leaf not fallen: and they give the reason to be, that the descending of the sap will make speedy roots. But mark the reasons following, and I think you shall finde no soundnesse either in that position or practice, at least in the reason.

1. I say, It is dangerous to remove when the sap is not quiet; for every remove gives a main check to the stirring sap, by staying the course thereof in the body of your plant, as may appear by trees removed any time in summer, they commonly die, nay hardly shall you save the life of the most yong and tender plant of any kinde of wood (scarcely herbs) if you remove them in the pride of sap: for proud sap universally stayed by removal, ever hinders, often taints, and so presently, or in very short time, kills. Sap is like blood in mans body, in which is the life, *cap. 3. p. 9.* If the blood universally be cold, life is excluded: so is sap tainted by untimely removal. A stay by drought, or cold, is not so dangerous (though dangerous, if it be extreme) because more natural.

2. The sap never descends, as men suppose; but is consolidated & transubstantiated into the substance of the tree, and passeth (always above the earth) upward, not onely betwixt the bark and the wood, but also into and
in

in both body & bark, though not so plentifully, as may appear by a tree budding, may fructifying two or three yeers, after he be circumcised, at the very root, like a river that enlargeth his chanel by a continual descent.

3. I cannot perceive what time they would have the sap to descend. At *Midsummer* in a biting drought it stays, but descends not; for immediately upon moisture, it makes second shoots, at (or before rather) *Michaeltide*, when it shapens his buds for next yeers fruit. If at the fall of leaf, I grant, about that time is the greatest stand, but no descent of sap, which begins somewhat before the leaf fall, but not long; therefore at that time must be the best removing, not by reason of descent, but stay of sap.

4 The sap in this course hath its profitable and apparent effects; as the growth of the tree, covering of wounds, putting of buds, &c. whereupon it follows, if the sap descend, it must needs have some effect to shew it.

5. Lastly, boughs plasht, and laid lower then the root, die for want of sap descending, except where it is forced by the main stream of the sap, as in top-boughs hanging like water in pipes, or except the plasht boughs lying on the ground put roots of his own; yea under-boughs, which we commonly call water-boughs, can scarcely get sap to live, yea in time die; because the sap doth presse so violently upward, and therefore the fairest shoots and fruits are always in the top.

Object. If you say that many so removed thrive, I say, Remove soon. that somewhat before the fall of the leaf (but not much) is the stand; for the fall and the stand are not at one instant: before the stand is dangerous. But to return.

The sooner in winter you remove your sets, the better; the later the worse: for it is very perillous if a strong drought take your sets before they have made good their

their rooting. A plant set at the fall, shall gain (in a manner) a whole years growth of that which is set in the Spring after.

The manner of setting.

I use in the setting to be sure that the earth be mouldy, (and somewhat moist) that it may run among the small tangles without straining or bruising: and as I fill in earth to his root, I shake the Set easily to and fro, to make the earth settle the better to his roots; and withal easily with my foot I put in the earth close; for air is noysome, and will follow concavities. Some prescribe Oats to be put in with the earth: I could like it, if I could know any reason thereof. And they use to set their plants with the same side toward the Sun: but this conceit is like the other. For first, I would have every tree to stand so free from shade, that not onely the root (which therefore you must keep bare from grasse) but body, boughs, and branches, and every spray, may have the benefit of Sun. And what hurt, if that part of the tree that before was shadowed, be now made partaker of the heat of the Sun? In turning of Bees, I know it is hurtful, because it changeth their entrance, passage; and whole work: but not so in Trees.

Set in the crust.

Set as deep as you can, so that in any wise you go not beneath the crust. Look Chap. 2.

Moisture good.

We spake in the second Chapter of moisture in general: but now especially having put your removed plant into the earth, powre on water (of a puddle were good) by distilling presently, and so every week twice, in strong drought, so long as the earth will drink, and refuse by over-flowing. For moisture mollifies, & both gives leave to the roots to spread, and makes the earth yeeld sap & nourishment with plenty & facility. Nurseries (they say) give best & most milk after warm drinks.

If

If your ground be such, that it will keep no moisture at the root of your plant, such plant shall never like, or but for a time. There is nothing more hurtful for yong trees, then piercing drought. I have known trees of good stature, after they have been of divers yeers growth, & thrive well for a good time, perish for want of water, and very many by reason of taints in setting.

It is meet your sets and grafts be fenced, till they be as big as your arm, for fear of annoyances. *Grafts must be fenced.* Many ways may sets receive damages, after they be set, whether grafted or ungrafted. For although we suppose, that no noysome beast or other thing must have access among your trees; yet by casualty, a Dog, Cat, or such-like, or your self, or negligent friend bearing you company, or a shrewd boy, may tread or fall upon a young and tender plant or graft. To avoid these and many such chances, you must stake them round a pretty distance from the set, neither so neer, nor so thick, but that it may have the benefit of Sun, Rain, and Air. Your stakes (small or great) would be so surely put, or driven into the earth, that they break not, if any thing happen to lean upon them, else may the fall be more hurtful then the want of the fence. Let not your stakes shelter any weeds about your sets; for want of Sun is a great hinderance. Let them stand so far off, that your grafts spreading receive no hurt, either by rubbing on them, or of any other thing passing by. If your stock be long, and high grafted, (which I must discommend (except in need) because there the sap is weak, and they are subject to strong winde, & the lightings of birds) tie easily with a soft list three or four pricks, under the clay, and let their tops stand above the grafts, to avoid the lighting of Crows, Pies, &c. upon your grafts. If you stick some

some sharp thorns at the roots of your stalks, they will make hurtful things keep off the better. Other better fences for your grafts I know none. And thus much for sets and setting.

CHAP. VIII.

Of the distance of trees.



Know not to what end you should provide good ground, well fenced, and plant good sets; and when your trees should come to profit, have all your labours lost, for want of due regard to the distance of placing your trees. I have seen many trees stand so thick, that one could not thrive for the throng of his neighbours. If you do mark it, you shall see the tops of trees rubbed off, their sides galled like a gall'd horse back; and many trees have more stumps than boughs, and most trees not well thriving, but short, stumpish, and evil-thriving boughs; like a Corn-field over-seeded, or a Town over-peopled, or a Pasture over-laid; which the Gardener must either let grow, or leave the tree very few boughs to bear fruit. Hence small thrift, galls, wounds, diseases, and short life to the trees: and while they live, green, little, hard, worm-eaten, and evil-thriving fruit arise, to the discomfort of the owners.

To prevent which discommodity, one of the best remedies is, the sufficient & fit distance of trees. Therefore at the setting of your plants, you must have such respect, that the distance of them be such, that every tree be not annoyance, but an help to his fellows: for trees (as all other things of the same kind) should shroud, and

not

Hurts of too
neer planting.

not hurt one another. And assure your self, that every touch of trees (as well under as above the earth) is hurtful: Therefore this must be a general rule in this Art, That no tree in an Orchard well ordered, nor bough, nor cyon, drop upon or touch his fellows. Let no man think this impossible, but look in the eleventh Chapter of dressing of trees. If they touch, the wind will cause a forcible rub. Young twigs are tender, if boughs or arms touch or rub, if they are strong, they make great galls. No kind of touch therefore in trees can be good.

General rule.

All touches hurtful.

Now it is to be considered what distance amongst sets is requisite, & that must be gathered from the compass and room that each tree by probability will take and fill. And herein I am of a contrary opinion to all them which practise or teach the planting of trees, that ever yet I knew, read, or heard of: for the common space between tree and tree, is ten foot; if twenty foot, it is thought very much. But I suppose 20 yards distance is small enough betwixt tree and tree, or rather too little. For the distance must needs be as far as two trees are well able to over-spread and fill, so they touch not by one yard at least. Now I am assured, and I know one Apple-tree, set of a slip *finger-great*, in the space of 20 years, (which I account a very small part of a trees age, as is shewed Chapter 14.) hath spread his boughs eleven or twelve yards compass, that is, five or six yards on every side. Hence I gather, that in forty or fifty years, (which yet is but a small time of his age) a tree in good soil, well liking, by good dressing (for that is much available to his purpose) will spread double at the least, *viz.* twelve yards on a side; which being added to 12 allotted to his fellow, make twenty and four yards, and so

The best distance of trees.

The parts of
a tree.

so far distant must every tree stand from another. And look how far a tree spreads his boughs above, so far doth he put his roots under the earth, or rather further, if there be no stop nor let by walls, trees, rocks, barren earth, and such-like: for an huge bulk, and strong arms, massie boughs, many branches, and infinite twigs, require wide spreading roots. The top hath the vast air to spread his boughs in, high and lowe, this way and that way; but the roots are kept in the crust of the earth, they may not go downward, nor upward out of the earth, which is their element, no more then the Fish out of the water, Camelion out of the air, nor Salamander out of the fire. Therefore they must needs spread far under the earth. And I dare well say, If Nature would give leave to man by Art, to dresse the roots of trees, to take away the taws and tangles that lip and fret, and grow superfluously and disorderly, (for every thing *sublunary* is cursed for mans sake) the tops above being answerably dresse, we should have trees of wonderful greatnesse, and infinite durance. And I perswade my self that this might be done sometimes in Winter, to trees standing in fair plains and kindly earth, with small or no danger at all. So that I conclude, that twenty four yards is the least space that Art can allow for trees to stand distant one from another.

Waste ground
in an Orchard.

If you ask me what use shall be made of that waste ground betwixt tree and tree: I answer; If you please to plant some tree or trees in that middle space, you may; and as your trees grow contiguous, great & thick, you may at your pleasure take up those last trees. And this I take to be the chief cause why the most trees stand so thick; for men not knowing (or not regarding) this secret of needful distance, and loving fruit of trees planted

planted in their hands, think much to pull up any, though they pine one another. If you or your heirs or succe'sors would take up some great trees (past setting) where they stand too thick, be sure you do it about *Midsummer*, and leave no main roots. I destinate this space of four and twenty yards, for trees of age and stature. More then this, you have borders to be made for walks, with *Roses, Berries, &c.*

And chiefly consider, that your Orchard, for the first twenty or thirty yeers, will serve you for many Gardens, for *Saffron, Licoras, roots,* and other herbs for profit, and flowers for pleasure: so that no ground need be wasted, if the Gardener be skilful and diligent. But be sure you come not neer with such deep delving the roots of your trees, whose compasse you may partly discern, by the compasse of the tops, if your top be well spread. And under the droppings and shadow of your trees, be sure no herbs will like. Let this be said for the distance of trees.

CHAP. IX.

of the placing of trees.



THe placing of trees in an Orchard, is well worth the regard: For although it must be granted, that any of our foresaid trees (Chap. 2.) will like well in any part of your Orchard, being good & wel-drest earth; yet are not all trees alike worthy of a good place. And therefore I wish that your *Filbert, Plums, Damsons, Bullesse,* and suck-like, be utterly removed from the plain soil of your Orchard into your fence: for there is not such fertility and easeful growth,

as within: and there also they are more subject, and can abide the blasts of *Eolus*. The Cherries and Plums being ripe in the hot time of Summer, and the rest standing longer, are not so soon shaken as your better fruit; neither, if they suffer losse, is your losse so great. Besides that, your fences and ditches will devour some of your fruit growing in or neer your hedges. And seeing the continuance of all these (except Nuts) is small, the care of them ought to be the lesse. And make no doubt, but the fences of a large Orchard will contain a sufficient number of such kinde of Fruit-trees in the whole compasse. It is not material, but at your pleasure, in the said Fences, you may either intermingle your several kinds of Fruit-trees, or set every kinde by himself, which order doth very well become your better and greater fruit. Let therefore your Apples, Pears, and Quinches, possesse the soil of your Orchard, unless you be especially affected to some of your other kinds; and of them, let your greatest trees of growth stand furthest from Sun, and your Quinches at the south-side or end, and your Apples in the middle; so shall none be any hinderance to his fellows. The Warden-tree, and Winter-pear, will challenge the preeminence for stature. Of your Apple-trees, you shall finde a difference in growth. A good Pippin will grow large, and a Costard-tree: stand them on the North-side of your other Apples; thus being placed, the least will give Sun to the rest, and the greatest will shroud their fellows. The Fences and out-trees will guard all.

CHAP.
Of Grafting.

NOW are we come to the most curious point ^{Of Graving or} of our faculty: curious in conceit, but in ^{Carving.} deed as plaine and easie as the rest, when it is plainely shewne, which we commonly call *Grafting*, or after (after some) *Grafting*. I cannot ^{Grafting what.} *Etymologize*, nor shew the originall of the Word, except it come of *Graving* and *Carving*.



But the thing or matter is: The reforming of the fruite of one tree with the fruit of another, by an artificiall transplacing or transposing of a twigge, bud or leafe, ^{A Grafte.} comm only called a *Graft* taken from one tree of the same, or some other kinde, and placed or put to, or into another tree in one time and manner.

Kinds of
grafting.

Of this there be divers kinds, but three or foure now especially in use: to wit, Grafting, incising, packing on, grafting in the scutchion, or in oculating: whereof the chiefe and most usuall, is called grafting (by the general name, *Osteochen*;) for it is the most knowne, surest, readiest, and plainest way to have store of good fruit.

Graft how.

It is thus wrought; You must with a fine, thin, strong and sharpe Saw, made and armed for that purpose, cut off a foot above the ground, or thereabouts, in a plaine without a knot, or as neare as you can without a knot (for some stocks will bee knotty) your Stocke, set, or plant, being surely stayed with your foot and legge, or otherwise straight overthwart (for the Stocke may bee crooked) and then plaine his wound smoothly with a sharpe knife: that done, cleave him cleanly in the middle with a cleaver, and a knocke or mall, and with a wedge of wood, Iron or Bone, two hanfull long at least, put into the middle of that cleft, with the same knocke, make the wound gape a straw bredth wide, into which you must put your Graffes.

A Graft what.

The graft is a top twig taken from some other Tree (for it is a folly to put a graffe into his own Stocke) beneath the uppermost (and sometime in need the second) knot, and with a sharpe knife fitted in the knot (and sometime out of the knot when need is) with shoulders an inch downeward, and so put into the stocke with some thrusting (but not straining) barke to barke inward.

Eyes.

Let your graffe have three or foure eyes for readinesse to put forth, and give issue to the sap. It is not amisse to cut off the top of your graffe, and leave it but five or sixe inches long, because commonly you shall

see

see the tops of long graffes die. The reason is this. The sap in grafting receives a rebuke, and cannot worke so strongly presently, and your graffes receive not sap so readily, as the naturall branches. When your graffes are cleanly and closely put in, and your wedge puld out nimble, for feare of putting your graffes out of frame, take well tempered mortar, soundly wrought with chaffe or horse dung (for the dung of cattell will grow hard, and straine your graffes) the quantity of a Gooses egge, and divide it iust, and therewithall cover your stocke, laying the one halfe on the one side, and the other halfe on the other side of your graffes, (for thrusting against your graffes) you move them, and let both your hands thrust at once, and alike, and let your clay be tender, to yeeld easily; and all, lest you move your graffes. Some use to cover the cleft of the Stocke, under the clay, with a piece of barke or leafe, some with a sear-cloth of waxe and butter, which as they be not much needful, so they hurt not, unless it be by being busie about them, you move your graffes from their places. They use also mosse tyed on above the clay with some bryar, wicker, or other bands. These profit nothing. They all put the graffes in danger, with pulling and thrusting: for I hold this generall rule in grafting and planting: if your stocke and graffes take, and thrive (for some will take and not thrive, being tainted by some meanes in the planting or grafting) they will (without doubt) recover their wounds safely and shortly.

Generall rule

The best time of grafting from the time of removing your stocke is the next Spring, for that saves a second wound, and a second repulse of sap, if your stocke be of sufficient bignesse to take a graffe from as bigge as your thumb,

Time of grafting

thumbe, to as big an arme of a man. You may graffe lesse (which I like) and bigger, which I like not so well. The best time of the yeere is in the last part of *February*, or *March*, or beginning of *Aprill*, when the Sunne with his heat begins to make the sap stirre more rankly about the change of the moon before yon see any great apparency of leafe or flowers but only knots and buds, & before they be proud, though it be sooner Cherries, Peares, Apricoks, Quinces, and plummcs would be gathered and grafted sooner.

Gathering of
graffes.

Graffes of old
trees.

The graffes may be gathered sooner in *February*, or any time within a month, or two before your graffe, or upon the same day (which I commend) If you get them any time before, for I have knowne graffes gathered in *December* and doe well, take heed of drought. I hays my self taken a burk not of a tree, & the same day when he was laid in the earth about mid *February*, gathered grafts and put in him, and one of those graffes bore the third yeare after, and the fourth plentifully; Graffes of old trees would be gathered sooner then of young trees for they sooner breake and bud. If you keepe graffes in the earth, moisture with the heat of the Sun will make them sprout as fast, as if they were growing on the tree And therefore seeing keeping is dangerous, the surest way (as I judge) is to take them within a weeke of the time of your grafting.

Where taken.

The grafts would be taken not of the proudest twigs, for it may be your stocke is not answerable in strength. And therefore (say I) the grafts brought from South to us in the north although they take and thrive (which is somewhat doubtfull, by reason of the difference of the clime and carriage) yet shall they in time fashion themselves to our cold Notherne soile, in groth, taste &c.

Nor of the poorest, for want of strength may make them unready to receive sap (and who can tell but a poore graft is tainted) nor on the outside of your tree, for there should your tree spread but in the middest: for there you may be sure your tree is no whit hindered in his growth or forme. He will still recover inward, more then you would wish. If your clay clift in Summer with draught, looke well in the Chinkes for Emmits and Earewigs, for they are cunning and close theeves, about grafts you shall find them stirring in the morning and evening, and the rather in the moist weather. I have had many young buds of Graffes, even in the flourishing, eaten with Ants. Let this suffice for grafting, which is in the faculty counted the cheife secret, and because it is most usuall, it is best knowne.

Graffes are not to be disliked for growth, till they wither, pine, and die. Vsuallly before *Midsummer* they break, if they live. Some (but few) keeping proud and greene, will not put till the second yeere, so is it to be thought of sets.

The first shew of putting is no sure signe of growth, it is but the sap the graf brought with him from his tree.

So soon as you see the graft put for growth, take away the clay, for then doth neither the stocke nor the graffe need it (put a little fresh well tempered clay in the hole of the stock) for the clay is now tender, and rather keepes moisture then drought.

The other waies of changing the naturall fruit of Trees, are more curious then profitable, and therefore I minde not to bestow much labour or time about them, onely I shall make knowne what I have proved, and what I doe thinke.

And first of incising, which is the cutting of the back Incising.

of the boale, a rine or branch of a tree at some bending or knee, shoulde[r]wise with two gashes, onely with a sharp knife to the wood: then take a wedge, the bignes of your graf sharp ended, flat on the one side, agreeing with the tree, & round on the other side, and with that being thrust in, raise your bark, then put in your grasse, fashioned like your wedge just: and lastly cover your wound, and fast it up, and take heed of straining. This will grow but to small purpose, for it is weak hold, and lightly it will be under growth. Thus may you graft betwixt the barke and the tree of a great stocke that will not easily be clifted: But I have tryed a better way for great trees, viz. First, cut him off straight, and cleanse him with your knife, then cleave him into four quarters, equally with a strong cleaver: then take for every clift two or three small (but hard) wedges, just of the bignes of your grafts, and with those Wedges driven in with a hammer, open the four clifts so wide (but no wider) that they may take your foure grasses, with thrusting, not with straining: and lastly cover and clay it closely, and this is a sure and good way of grafting: or thus, clift your stocke by his edges twice or thrice with your cleaver, and open him with your wedge in every clift one by one, and put in your grafts and then cover them. This may doe well.

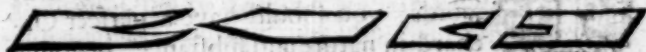
A great stock.

Packing thus.

Packing on, is when you cut aslope a twig of the same bignes with your graft, either in or besides the knot, two inches long, & make your graft agree jumpe with the cyon, & gash your graft and your cyon in the middelt of the wound, length-way, a straw breadth deepe, and thrust the one into the other, wound to wound, sap to sap, barke to barke, then tie them close and clay them. This may doe well. The fairest graft I have

have in my little Orchard, which I have planted, is in a packt on, and the branch whereto I put him, is in a plentiful root.

To be short in this point, cut your graft in any sort or fashion, two inches long, and joyn him cleanly and close to any other sprig of any tree in the latter end of the time of grafting, when sap is somewhat rife, and in all probability they will close and thrive: thus



The sprig. The graft. The twig. The graft.

Or any other fashion you thinke good.

Inoculating is an eye or bud, taken bark and all from one tree, and placed in the room of another eye or bud of another, cut both of one compas, and there bound. This must be done in Summer, when the sap is proud.

Inoculating.

Much like unto this, is that they call grafting in the scutchion, they differ thus: That here you must take an eye with his leafe, or (in mine opinion) a bud with his leaves. (Note that an eye is for a cyon, a bud is for flow-ers & fruit,) and place them on an other tree, in a plain (for so they teach) the place or barke where you must set it, must be thus cut with a sharpe knife, and the barke raised with a wedge, and then the eye

Grafting in the Scutchion.

H or bud put in and so bound up. I cannot denie but such may grow. And your bud if he take wil flowre and beare fruit in that yeer: as some grafts & sets also, being set for bloomes. If these two kindes thrive, they reforme but a spray, and an undergrowth. Thus you may place Roses, on thornes, & cherries on apples, and such like. Many write much more of grafting, but to small purpose. Whom we leave to themselves, & their followers, and ending this secret we come in the next

Chapter to a point of knowledge most requisite in an Arborist, as well for all other woods as for an Orchard.

CHAP. II.

Of the right dressing of Trees.

Necessity of
dressing trees.



F all these things aforesaid were indeed performed, as we have shewed them in words, you should have a perfect Orchard in nature and substance, begunne to your hand : And yet are all these things nothing, if you want that skil to keepe and dresse your trees. Such is the condition of all earthly things, whereby a man receiveth profit or pleasure, that they degenerate presently without good ordering. Man himselve left to himselve, growes from his heavenly and spirituall generation, and becommeth beastly, yet de vilish to his owne kind, unlesse he be regenerate. No marvell then, if trees make their shootes, and put their spraires disorderly. And truly (if I were worthy to judge) there is not a mischief that breedeth greater and more generall harme to all the orchard (especially if they be of any continuance) that ever I saw, (I will not except three) then the want of the skilfull dressing of trees. It is a common and unskilfull opinion, and saying, Let all grow, and they will beare more fruit: & if thou lop away superfluous boughs, they say, what apitty is this? how many apples would these have borne? not considering there may arise hurt to your orchard, as well (nay rather) by abundance, as by want of wood, sound and thriving plant in a good soile, will ever yeeld too much wood, and disorderly, but never too little. So that a skilfull and painfull Arborist need

Generall rule.

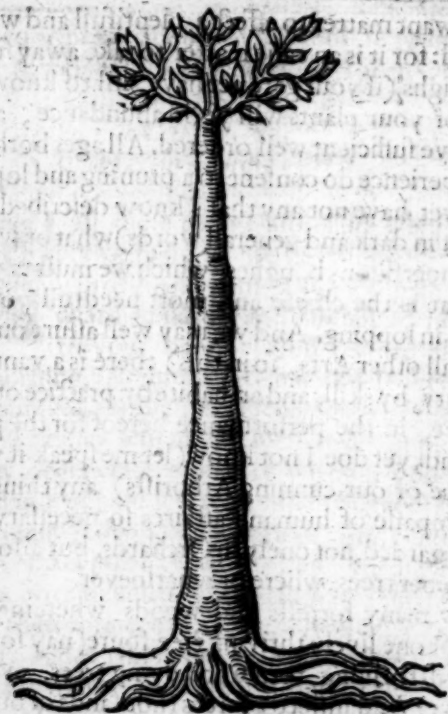
never

never want matter to effect a plentiful and well drest orchard: for it is an easie matter to take away superfluous boughs; (if your gardner have skill to know them) whereof your plants will yeeld abundance, and skill will leave sufficient well ordered. All ages both by rule and experience do consent to a pruning and lopping of trees: yet have not any that I know described unto us (except in dark and generall words) what or which are those superfluous boughes, which we must take away, and that is the chiefe and most needfull point to be known in lopping. And we may well assure our selves, (as in all other Arts, so in this) there is a vantage and dexterity, by skill, and an habite by practice out of experience, in the performance hereof for the profit of mankind; yet doe I not know (let me speak it with the patience of our cunning Arborists) any thing within the compasse of humane affaires so necessary, and so little regarded, not onely in Orchards, but also in all other timber trees, where or whatsoever.

How many forrests and woods wherein you shall have for one lively thriving tree, foure (nay sometimes 24.) evill thriving, rotten and dying trees, even while they live? And instead of trees thousands of bushes and shrubs. What rottenesse? what hollownes? what dead armes? withered tops? curtalled trunks? what loads of mosses? drouping boughes? & dying branches shall you see every where? And those that like in this sort are in a manner all unprofitable boughs, cankred armes, crooked, little and short boales: what an infinite number of bushes, shrubs, and skrogs of hazels, thornes, and other profitable wood, which might be brought by dressing to become great and goodly trees. Consider now the cause: The lesser wood hath beene spoyled with

Timber wood
evill drest.

The cause of
hurts in woods.



Imagine the roote to be spread farre wider.

with carelesse, unskilfull, and untimely stowing, and much also of the great wood. The greater trees at the first rising have filled and over-laden themselves with a number of wasteful boughes and suckers, which have not only drawne the sap from the boale, but also have made it knotty, and themselves and the boale moffie for want of dressing, whereas if in the prime of growth they

they had been taken away close, all but one top (according to this patterne) and cleane by the bulke, the strength of all the sap should have gone to the bulke, and so he would have recovered and covered his knots, and have put forth a faire long and streight body (as you see) for timber profitable, huge, great of bulke, and of infinite last.

If all timber trees were such (will some say) how should we have crooked wood for wheels, coorbs, &c.

Ans. Dresse all you can, and there will be enough crooked for those uses.

More than this, in most places, they grow so thicke, that neither themselves, nor earth, nor any thing under or neer them can thrive; nor Sunne, nor raine, nor aire can doe them, nor any thing neer or under them, any profit or comfort.

I see a number of Hags, where out of one roote you shall see three or four (nay more) such as mens unskillfull greedinesse, who desiring many have none good) pretty Okes or Ashes, straight and tall, because the root at the first shoote gives sap amaine: but if one onely of them might bee suffered to grow, and that well and cleanly pruned, all to his very top, what a tree should we have in time? And we see by those rootes continually and plentifully springing, notwithstanding so deadly wounded, What a commodity should arise to the owner, and the Common-wealth, if wood were cherished, and orderly dressed.

The waste boughs closely and skilfully taken away, would give us store of fences and fewell, and the bulk of the tree in time would grow of huge length and bignesse. But here (me thinks) I hear an unskillfull Arborist say, that trees have their severall formes, even by nature,

Profit of trees dressed.

The end of
trees.

Trees will take
any forme.

The end of
Trees.

How to dresse
a fruit-tree.

ture, the Peare, the Holly, the Aspe, &c. grow long in bulke with few and little armes; the Oke by nature broad, and such like. All this I grant: but grant me also, that there is a profitable end, and use of every tree, from which (if it decline (though by nature) yet man by art may (nay must) correct it. Now other end of trees I never could learn, then good timber, fruit much and good, and pleasure. Vses physicall hinder nothing a good forme.

Neither let any man ever so much as thinke, that it is unprofitable, much lesse impossible, to reform any tree of what kind soever. For (beleeve me) I have tried it, I can bring any tree (beginning by time) to any forme. The Peare and Holly may be made to spread, and the Oke to close.

But why doe I wander out of the compasse of mine Orchard, into the Forrests and Woods? Neither yet am I from my purpose, if boales of timber trees stand in need of al the sap, to make them great and streight (for strong growth and dressing makes strong trees) then it must needs be profitable for fruit (a thing more immediately serving a mans need) to have all the sap his root can yeeld: for as timber sound, great and long, is the good of timber trees, and therefore they beare no fruit of worth: so fruit, good, sound, pleasant, great and much, is the end of fruit-trees. That gardner therefore shall perform his duty skilfully and faithfully, which shall so dresse his trees, that they may beare such and such store of fruit, which he shal never do (dare undertake) unlesse he keepe this order in dressing his trees.

A fruit tree so standing, that there need none other end of dressing but fruit (not ornaments but walks, nor delight to such as would please their eye only, and yet the

the best forme cannot but both adorne & delight) must be parted from within two foot, or there abouts, of the earth, so high to give liberty to dresse his roote, and no higher, for drinking up the sape that should feede his fruit, for the boale will be first, and best served and fed, because he is next the roote, and of greatest waxe and substance, and that makes him longest of life, into two, three, or foure armes, as your stocke or grasses yeeld twigs, and every arme into two or more branches, and every branch into his severall Cyons, still spreading by equall degrees, so that his lowest spray be hardly without the reach of a mans hand, and his highest be not past two yards higher, rarely (especially in the midst) that no one twig touch his fellow. Let him spread as farre as he list without his maister-bough, or lop equally. And when any bough doth grow sadder and fall lower than his fellowes (as they will with weight of fruit) ease him the next spring of his superfluous twigs, and he will Rise: when any bough or spray shal amount above the rest; either snub his top with a nip betwixt your finger and your thumb, or with a sharpe knife, and take him cleane away, and so you may use any Cyon you would reforme, and as your tree shall grow in stature and strength, so let him rise with his tops but slowly, and carely, especially in the midst, and equally, and in breadth also, & follow him upward with lopping his under growth and water boughes, keeping the same distance of two yards, but not above three in any wise, betwixt the lowest and the highest twigs.

1. Thus you shall have well liking, cleane skin, healthfull great, and long lasting trees.

Benefits of good dressing.

2. Thus shall your tree grow low, and safe from winds, for his top will be great, broad and weighty.

3. Thus

3. Thus growing broad, shall your trees beare much fruit (I dare say) one as much as sixe of your common trees; and good without shadowing, dropping and fretting; for his boughs, branches, and twigs shall be many, and those are they (not the boale) which beare the fruit.

4. Thus shall your boale being little (not small but low) by reason of his shortheesse, take little, and yeeld much sap to the fruit.

5. Thus your trees by reason of strength in time of setting shall put forth more blossomes and more fruite being free from taints; for strength is a great helpe to bring forth much and safely; whereas weakenesse fails in setting, though the season be calme.

Some use to bare trees roots in winter, to stay the setting till hotter seasons, which I discommend, because
1. they hurt the rootes.

2. It stayes it nothing at all.

3. Though it did, being small, with us in the North, they have their part of our *Aprill* and *Mayes* frosts.

4. Hinderance cannot profit weake trees in setting.

5. They wast much labour.

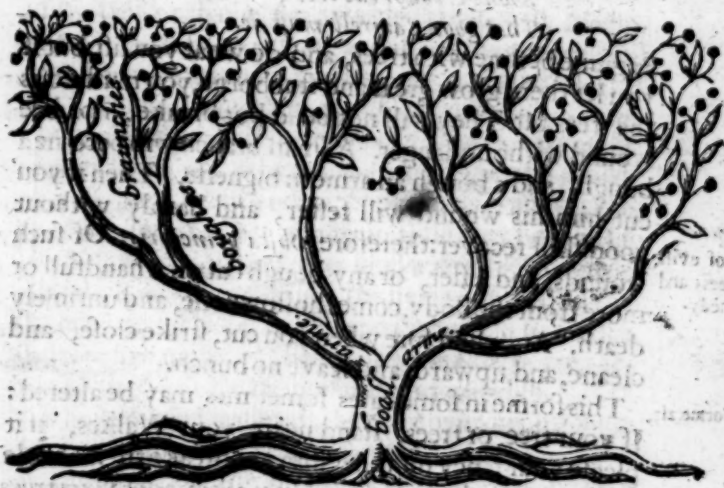
6. Thus shall your tree be easie to dresse, and without danger, either to the tree or the dresser.

7. Thus may you safely and easily gather your fruit without falling, bruising or breaking of Cyons.

This is the best form of a fruite tree, which I have here only shadowed out for the better capacity of them that are led more with the eye, then the mind, craving pardon for the deformitie, because I am nothing skilfull either in the painting or carving.

Imagine that the paper makes but one side of the tree to appear, the whole round compasse will give leave for many more armes, boughes, branchies, and Cyons.

The perfect forme of a Fruit-tree.



If any thinke a tree cannot well be brought to this forme: *Experto credo Roberto*, I can shew divers of them under twenty yeeres of age.

The fittest time of the Moone for prøyning is as of grafting, when the sap is ready to stirre (not proudly stirring) and so to cover the wound, and of the yeere, a moneth before (or at least when) you grasse. Dresse Peares, Apricocks, Peaches, Cherries, and Bullies sooner. And old trees before young plants, you may dresse at any time betwixt Lease and Lease. And note, where you take any thing away, the sap the next summer will be putting: be sure therefore when he puts a bud in any place where you would not have him, *ra. b* it off with your finger.

Time best for prøyning.

And

Dressing be-
time.

And here you must remember the common homely
Proverbe:

*Soone crookes the tree,
That good Camrell must be.*

Faults of evill
drest trees, and
the remedy.

Beginne betime with trees, and do what yon list: but if
you let them grow great and stubborne, you must do as
the trees list. They will not bend but breake, nor bee
wound without danger. A small branch will become a
bough, and a bough an arme in bignesse. Then if you
cut him his wound will fester, and hardly without
good skill recover: therefore, *obsta principijs*. Of such
wounds, and lesler, or any bough cut off a handfull or
more from the body, comes hollownesse, and untimely
death. And therefore when you cut, strike close, and
cleane, and upward, and leave no bunch.

The forme al-
tered.

This forme in some cases sometimes may be altered:
If your tree, or trees, stand neare your Walkes, it it
please your fancy more, let him not breake till his boale
be above your head: so may you walke under your trees
at your pleasure. Or if you set your fruit-trees for your
shades in your Groaves, then I respect not the forme of
the tree, but the comelinesse of the walke.

Dressing of old
trees.

All this hitherto spoken of dressing, must be under-
stood of young plants, to be formed: it is meete some-
what be said for the instruction of them that have old
trees already formed, or rather deformed: for *Malum
non vitatur nisi cognitum*. The faults therefore of a dis-
ordered tree, I finde to be five.

Faults are five,
and their re-
medies.

1. An unprofitable boale.
2. Water boughes.
3. Fretters.
4. Suckers. And
5. One principall top.

A long

A long boale asketh much feeding, and the more he hath the more he desires, and gets (as a drunken man drinke, or a covetous man wealth) and the lesse remains for the fruit, he puts his boughs into the aire, and makes them, the fruit, and it selfe more dangered with windes: for this I know no remedy, after that the tree is come to growth, once evill, never good.

1. Long boale.

No remedy.

Water boughs, or under growth, are such boughes as grow low under others, and are by them overgrown, overshadowed, dropped on, & pinde for want of plenty of sap, and by that meanes in time die: For the sap presseth upward; and it is like water in her course, where it findeth most issue, thither it floweth, leaving the other lesse fluces dry: even as wealth to wealth, and much to more. These so long as they beare, they beare lesse, worse, and fewer fruit, and waterish.

1. Water boughs.

The remedy is easie; if they be not growne greater then your arme. Lop them close and clean, and cover the middle of the wound, the next Summer when he is dry, with a salve made of tallow, tarre, and a very little pitch, good for the covering of any such wound of a great tree: unless it be bark-pild, and then a sear-cloth of fresh butter, hony, and waxe, presently (while the wound is green) applyed, is a soveraigne remedy, in Summer especially. Some bind such wounds with a thumbe rope of Hay, moist, and rub it with dung.

Remedy.

Bark-pild, and the remedy

Fretters are, when as by the negligence of the Gardener, two or moe parts of the tree, or of diverse trees, as armes, boughes, branches, or twigs, grow so nere and close together, that one of them by rubbing, doth wound another. This fault of all other shewes the want of skil or care (at least) in the arborist: for here the hurt is apparant, and the remedy easie, seen to betime: galls

Fretters.

Touching.

Remedy.

and wounds incurable, but by taking away those members : for let them grow, and they will be worse and worse, and so kill themselves with civill strife for roomth, & danger the whole tree. Avoide them betime therefore, as a common-wealth doth bo some enemies.

Suckers.

A Sucker is a long, proud, and disorderly Cyon, growing streight up (for pride of sap makes proud, long, and streight growth) out of any lower parts of the tree, receiving a great part of the sap, and bearing no fruit, till it have tyrannized over the whole tree. These are like idle and great Drones amongst Bees; and proud and idle members in a common-wealth.

Remedy.

The remedy of this is, as of water-boughes, unlesse he be grown greater then all the rest of the boughs, and then your Gardner (at your discretion) may leave him for his boale, and take away all, or the most of the rest. If he be little, slip him, & set him, perhaps he wil take: my fairest Apple-tree was such a slip.

One principall
top or bough,
and remedy.

One or two principall top boughs are as evill, in a manner, as Suckers, they rise of the same cause, and receive the same remedy : yet these are more tollerable, because these beare fruit, yea the best : but Suckers of long doe not beare.

Instruments for
dressing.

I know not how your tree should be faulty, if you reforme all your vices timely, and orderly. As these rules serve for dressing young trees and sets in the first setting : so may they well serve to helpe old trees, though not exactly to recover them.

The Instruments fittest for all these purposes, are most commonly : For the great trees an handsome long, light Ladder of Firpoles, a little, nimble, and strong armed Saw, and sharpe. For lesse Trees, a little and sharpe Hatchet, a broad mouthed Cheshell, strong
and

and sharp, with an hand-beetle, your strong and sharp Cleever, with a knock, & (which is a most necessary instrument amongst little trees) a great haisted and sharp Knife or whittle. And as needfull is a Stool on the top of a Ladder of eight or more rungs, with two back-feet, whereon you may safely and easfully stand to grasse, to dresse, and to gather fruit, thus formed. The feet may be fast wedged in: but the Ladder must hang loose with two bands of Iron. And thus much of dressing trees for fruit, formally to profit.



CHAP. 12.

Of Foiling.



Here is one thing yet very necessary for to make your Orchard both better, and more lasting: Yea, so necessary, that without it your Orchard cannot last, nor prosper long, which is neglected generally both in precepts and in practice,

Necessity of foiling.

viz. manuring with Foile: whereby it hapneth that when trees (amongst other evils) through want of fatnesse to feed them, become mossie, and in their growth are evill (or not) thriving, it is either attributed to some wrong cause, as age (when indeed they are but young) or evil standing (stand they never so well) or such like, or else the cause is altogether unknowne, and so not amended.

Can there be devised any way by nature, or art, sooner or soundlier to suck out, & take away the heart and strength of earth, then by great trees? such great bodies cannot be sustained without great store of sap. What

Trees great suckers.

Great bodies.

living body have you greater then of trees? The great Sea-monsters (whereof one came a land at *Teesmouth* in *Yorkeshire*, hard by us, 18 yards in length, and neere as much in compasse) seem hideous, huge, strange, and monstrous, because they be indeed great: but especially, because they are seldome seene: But a tree liking, come to his growth and age, twice that length, and of a bulke never so great, besides his other parts, is not admired, because he is so commonly seen. And I doubt not, but if he were well regarded from his kernell, by succeeding ages, to his full strength, the most of them would double their measure. About fifty yeeres agoe, I heard by credible and constant report. That in *Brookham Parke* in *Westmoreland*, neer unto *Penrith*, there lay a blown Oake, whose trunk was so bigge, that two Horsemen being the one on the one side, and the other on the other side, they could not one see another: to which if you adde his armes, boughs, and rootes, and consider of his bignesse, what would he have been, if preserved to the vantage? Also I reade in the History of the *West-Indians*, out of *Peter-Martyr*, that sixteene men taking hands one with another, were not able to fathome one of those trees about. Now nature having given to such a faculty by large and infinite roots, taws and tangles, to draw immediately his sustenance from our common mother the Earth (which is like in this point to all other mothers that bear) hath also ordained that the tree over-loden with fruit, and wanting sap to feed all she hath brought forth, will wain all she cannot feed, like a woman bringing forth mo children at once then she hath teats. See you not how trees especially, by kind being great, standing so thicke and close, that they cannot get plenty of sap, pine away all the grasse, weeds,

weeds, lesser shrubs and trees; yea, and themselves also for want of vigour of sap: so that trees growing large, sucking the soyl whereon they stand continually and amaine, and the soizon of the earth that feeds them decaying (for what is there that waists continually, that shal not have end?) must either have supply of sucken, or else leave thriving & growing. Some grounds wil bear corn while they be new, and no longer, because their crust is shallow, and not very good, & lying they scind and wash, and becomae barren. The ordinary Come soils continue not fertile, with following and toying, and the best requires supply, even for the little body of corn. How then can we think that any ground (how good soever can sustain bodies of such greatnesse, and such great feeding, without great plenty of Sap arising from good earth? this is one of the chief causes why so many of our Orchards in *England* are so evil thriving when they come to growth, and our fruit so bad. Men are loth to bestow much ground, & desire much fruit, and will neither set their trees in sufficient compasse, nor yet feed them with manure. Therefore, of necessity Orchards must be soiled.

The fittest time is, when your trees are grown great and have near hand spread your Earth, wanting new Earth to sustain them, which if they do, they will seek abroad for better earth, & shun that which is barren (if they find better) as cattel evil pasturing. For nature hath taught every creature to desire and seeke his own good, and to avoid hurt. The best time of the year is at the Fal, that the Frost may bite and make it tender, and the Rain wash it into the roots. The Summer time is perilous if ye dig, because the sap stirs a main. The best kind of Soil is such as is fat, hot, and

tender. Your *earth* must be lightly opened, that the Dung may go in, and wash away; and but shallow, lest you hurt the roots: and in the Spring closely and equally made plain again for fear of Suckers. I could wish, that after my *trees* have fully possessed the soil of mine Orchard, that every 7 years at least, the soil were bespread with Dung halt a foot thick at least. Puddle water out of the dunghill powred on plentifully, will not only moisten but fatten; especially in *June* and *July*. If it be thick and fat, and applyed every year, your Orchard shall need none other soiling. Your ground may ly so low at the River side, that the flood standing some dayes and nights thereon, shall save you all this labour of soyling.

CHAP. 13.

Of Annoyances.



Chief help to make every thing good, is to avoid the evils thereof: you shall never attain to that good of your Orchard you look for, unlesse you have a Gardener that can discern the Diseases of your trees, and other annoyances of your Orchard, and find out the causes thereof, and know and apply fit remedies for the same. For be your ground such plants and trees as you would wish, if they be wasted with hurtfull things, what have you gained, but your labour for your travel? Is it with an Orchard and every Tree, as with mans body. The best part of physick for preservation of health, is to foresee and cure diseases.

All the Diseases of an Orchard are of two sorts, either internall, or externall. I call those inward hurts which breed on, and in particular trees.

Two kind of
evils in an
O. chard.

1 Gallies

1 Galles.

5 Bark bound.

2 Canker.

6 Bark pild.

3 Mosse.

7 Worme.

4 Weaknes in setting.

8 Deadly wounds.

Gal's.

Galles, Canker, Mosse, weaknesse, though they be divers diseases: yet (howsoever authors think otherwise) they rise all out of the same cause.

Galles we have described with their cause and remedy, in the 11 Chapter under the name of fretters.

Canker is the consumption of any parts of the tree; barke and wood, which also in the same place is deciphered under the title of water boughes.

Canker.

Mosse is sensibly seen and known of all, the cause is pointed out in the same chapt. in the discourse of timber-wood, and partly also the remedy, but for Mosse adde this, that any time in summer (the spring is best) when the cause is removed, with an Harecloth immediately after a shower of rain, rub of your Mosse, or with a piece of weed (if the mosse abound) formed like a great knife.

Mosse.

Weaknes in the setting of your fruit shall you find there also in the same chapter, and his remedy. All these flow from the want of roomth in good soile, wrong planting. Chap. 7. and evill or no dressing.

Weaknesse in setting.

Bark bound: I think riseth of the same cause, and the best, & present remedy (the causes being taken away) is with your sharp knife in the spring, leng. h way to lanch his bark throughtout one 3 or 4 sides of his bonl.

Bark. bound

The disease called the worm is thus discerned: The bark will be hoald in divers places like gall, the wood will die, & dry, and you shal see easily the bark swel it is verily to be thought, that therein is bred some worm I have not yet thorowly sought it out, because I was never

worme.

troubled therewithall: but onely have seen such trees in divers places. I think it a worm rather, because I see this Disease in trees, bringing fruit of sweet tast, and the swelling shewes as much. The remedy (as I conjecture) is so soon as you perceive the wound; the next Spring cut our Bark and all, and apply Cowes pissle and vineger presently, and so twice or thrice a week for a moneths space: For I well perceive, if you suffer it any time it eats the tree or bough round, and so kills. Since I first wrote this Treatise, I have changed my mind concerning the disease called the worm, because I read in the History of the West-Indians, that their trees are not troubled with the disease called the worm or canker, which ariseth of a raw and evill concocted humour or sap. Witness Pliny, by reason the Country is more hot then ours; whereof I think the best remedy is (not disallowing the former, considering that the worm may breed by such an humour) warme standing, sound lopping, and good dressing.

Bark pil'd you shall find with his remedy in the 11. Chapter.

Wounds.

Deadly wounds are when a mans *Arborist* wanting skill, cut off armes, boughes, or branches an inch, or (as I see sometimes) an handfull, or half a foot or more from the body: these so cut, cannot cover in any time with sap, and therefore they dye, and dying they perish the heart, and so the tree becomes hollow, and with such a deadly wound cannot live long.

Remedy.

The remedy is, if you find him before he be perished, cut him close, as in the 11. Chapter: if he be hoal'd, cut him close, fill his wound the never so deep, with mortar well temper'd, & so close at the top his wound with a Sear-cloth doubled and nayled on, that no ayre nor

rain

rain approach his wound. If he be not very old and detaining, he will recover, and the hole being closed, his wound within shall not hurt him for many years.

Hurts on your trees are chiefly Ants, Earwigs, and Caterpillars. Of Ants and Earwigs is said Chap 10. *Let there be swarm of Pismires neer your tree root, no not in your Orchard turn them over in a frost, and pour in water, and you kill them.*

For Caterpillars, the vigilant Fruturer shall soon espy their lodging by their web, or the decay of leaves eaten round about them. And being seen, they are easily destroyed with your hand, or rather (if your tree may spare it) take sprig and all for the red peckled Butterfly doth ever put them, being her sparm, among the tender spraes for better feeding, especially in drought, and tread them under your feet. I like nothing of smoke among my trees. Unnaturall heats are nothing good for naturall trees. *This for diseases of particular trees.*

Externall hurts are either things naturall or artificiall. Naturall things, extremally hurting Orchards.

1 Beasts. 1 Deer. 2 Birds. 1 Bulfinch.

2 Goats. 2 Thrush.

3 Sheep. 3 Blackbird.

4 Hare. 4 Crow.

5 Cony. 5 Pye.

6 Catell.

7 Horfes. &c.

The other things are.

1 Winds.

2 Cold.

3 Trees.

4 Weeds.

5 Wormes.

6 Mowles

6 Mowles.

7 Filth.

8 Poysonfull smoke.

Externall wilfull evils are these.

1 Walls.

2 Trenches.

3 Other works noisome, done in or near

4 Evil Neighbours. (your Orchard.

5 A carelesse Master.

6 An undiscreeet, negligent, or no keeper.

See you here an whole Army of mischiefs banded in troops against the most fruitfull trees the earth beares: assailing your good labours. Good things have most enemies.

Remedy.

A skilfull Fruiterer must put to his helping hand, and disband and put them to flight.

Deer, &c

For the first rank of Beasts, besides your out strong fence, you must have a fair and swift Grey-hound, a Stone-bow, Gun, and if need require, an Apple with an hook for a Deer, and an Hare-pipe for an Hare.

Birds;

Your Cherries and other Berries when they be ripe, will draw all the Blackbirds, Thrushes, and Maw Pies to your Orchard. The Bul-finch is a devourer of your fruit in the bud, I have had whole trees shal'd out with them in Winter-time.

The best remedy here is a Stone-bow, a Piece, especially if you have a Musket, or Spar-hawk in Winter to make the Black-bird stoop into a bush or hedge.

The Gardener must cleanse his soyl of all other trees: but Fruit-trees, as afore said, *chap. 3.* for which is ordained, and I would especially name Oakes, Elmes, Ashes, and such other great Wood, but that I doubt it should be take as an admission of lesser trees: for I admit

of

of nothing to grow in mine Orchard but fruit & flowers, If sap can hardly be good to feed our fruit-trees, should we allow of any other, especially those, that will become their Masters, & wrong them in their livelyhood.

Winds.

And although we admit without the fence of Wall-nuts in most plain places, Trees middle most, & ashes or Oves, or Elms utmost, set in comely rows equally distant with fair Allies twixt row and row to avoid the boisterous blasts of winds, and within them allow others for bees: yet we admit none of these into your Orchard-plot: other remedy then this have we none against the nipping frosts.

Frosts.

Weeds in a fertile soile (because the generall course is so) till your trees grow great, will be noisome, and deform your allies, walks, beds, & squares, your under Gardens must labour to keep all cleanly and handsome from them, and all other filth, with a Spade, weeding knives, rake with Iron teeth a skrapple of Iron thus formed.

Weeds.



For Nettles and ground Ivy after a shower.

When weeds, straw, sticks, and all other scrapings, are gathered together, burn them not, but bury them under your crust in any place of your Orchard, and they will dye and fatten your ground.

Barke pilp.

Wormes and Moales open the earth, and let in ayre to the roots of your trees, and deforme your squares and walkes and tread in the earth, being in number infinite, draw one barrenesse.

Wormes

Moales,

Wormes may easily be destroyed. Any Summer evening when it is darke, after a shower with a candle you may fill bushels, but you must tread nimbly & where you

Remedy.

you cannot come to catch them so, sift the earth with coal ashes an inch or two thickness, and that is a plague to them so is sharp gravell.

Moals will anger you, if your Gardener or some skilfull Moal-catcher ease you not, especially having made their fortresses among the roots of your trees: you must watch her well with a Moal spate, at morn, noon, and night, when you see her utmost hill, cast a Trench betwixt her and her home (for she hath a principall mansion to dwell & breed in about *April*, which you may discern by a principal hill, wherein you may catch her, if you trench it round and sure, and watch well, or wheresoever you can discern a single passage (for such she hath) there trench, and watch, and have her.

Willfull amoyances must be prevented and avoided by the love of the Master and Fruterer, which they bear to their Orchard.

Justice and liberality will put away evill neighbours or evill neighbour-hood. And then (if God blesse and give success to your labours) I see not what hurt your Orchard can sustain.

CHAP. 14.

Of the age of Trees.

IT is to be considered: All this Treatise of Trees tends to this end, that men may love and plant Orchards, whereunto there cannot be a better inducement then that they know (or at least be perswaded) that all that benefit which they shall reape thereby, whether of pleasure or profit, shall not be for a day, or a month, or one, or many, but many hundred years. Of good things the greatest, and most durable is always the best. If therefore out of reason

reason grounded upon experience, it be made (I think) manifest, but I am sure probable, that a fruit-tree in such a soile and site, as is described, so planted & trimmed and kept, as is afore appointed, and duely soiled, shall dure a 1000 yeeres, why should we not take pains and be at two or three yeeres charges (for under seven yeeres will an Orchard be perfected for the first planting, and in that time be brought to fruit) to reap such a commodity and so long lasting?

The age of trees.

Let no man think this to be strange, but peruse and consider the reason. I have Apple-trees standing in my little orchard, which I have known these fourty yeers, whose age before my time I cannot learne, it is beyond memory, tho I have enquired of divers aged men of 80 yeers and upwards : these trees although come into my possession very evill ordered, mishapen, and one of them wounded to his heart, & that deadly (for I know it will be his death) with a wound, wherein I might have put my foot into the heart of his bulke (now it is lesse) notwithstanding, with that smal regard they have had since, they so like, that I assure my selfe they are not come to their growth by more then 2. parts of 3. which I discern not only by their own growth, but also by comparing them with the bulk of other trees. And I find them short (at least) by so many parts in bignesse, although I know those other fruit-trees to have been much hindred in their stature by evill guiding. Here-hence I gather thus.

Gathered by reason out of experience.

If my trees be a hundred yeers old, and yet want two hundred of their growth before they leave encreasing, which make three hundred, then we must needs resolve, that this three hundred yeers are but the third part of a trees life, because (as all things living besides)

Parts of a trees age.

so

so trees must have allowed them for their increase one third, another third for their stand, and a third part of time also for their decay. All which time of a Tree amounts to nine hundred yeeres, three hundred for increase, three hundred for his stand, wherof we have the tearme stature, & three hundred for his decay, and yet I think (for we must conjecture by comparing, because no one man liveth to see the full age of trees) I am within the compasse of his age, supposing alwaies the foresaid meanes of preserving his life. Consider the age of other living creatures. The Horse and moiled Oxe wrought to an untimely death, yet double the time of their increase. A dog likewise increaseth three, stands three at least, and in as many (or rather moe) decays.

• Mans age.

Every living thing bestowes the least part of his age in his growth, & so must it needs be with trees. A man comes not to his full growth & strength (by common estimation) before thirty yeeres, and some slender and cleane bodies, not till forty, so long also standes his strength, & so long also must he have allowed by course of nature to decay. Ever supposing that he be well kept with necessaries, and from & without straines, bruises and all other dominiering diseases. I will not say upon true report, that Phisick holds it possible, that a cleane body kept by these 3. Doctors, *Doctor Dyet*, *Doctor Quiet*, and *Doctor Merriman*, may live neer a hundred yeers. Neither will I here urge the long yeers of *Methusalah*, and those men of that time, because you will say, Mans daies are shortned since the flood. But what hath shortned them? God for mans sins: but by meanes, as want of knowledge, evill government, riot, gluttony, drunkennesse, & (to be short) the encrease of the

the curse, our sins increasing in an iron and wicked age.

Now if a man, whose body is nothing (in a manner) but tender rottenesse, whose course of life cannot by any meanes, by counsell, restraint of Lawes, or punishment, nor hope of praise, profit, or eternall glory, be kept within any bounds, who is degenerate cleane from his naturall feeding, to effeminate nicenette, and cloying his body with excesse of meate, drinke, sleepe &c. and to whom nothing is so pleasant and so much desired as the causes of his owne death, as idlenesse, lust, &c. may live to that age : I see not but a tree of a solid substance, not damnified by heat or cold, capable of, and subject to any kinde of ordering or dressing that a man shall apply unto him, feeding naturally, as from the beginning disburdened of all superfluities, eased of, and of his owne accord avoiding the causes that may annoy him, should double the life of a man, more then twice told; and yet naturall philosophy, and the universall consent of all Histories tell us, that many other living creatures farre exceed man in the length of yeeres : As the Hart and the Raven. Thus reporteth that famous *Roterodam* out of *Hesiodus*, and many other Historiographers. The testimony of *Cicero* in his booke *De Senectute*, is weighty to this purpose : that we must in *posteris aetates serere arbores*, which can have none other sense : but that our fruit-trees whereof he speakes, can indure for many ages.

What else are trees in comparison with the earth: but as haire to the body of a man? And it is certaine, without poisoning, evill & distemperate dyet, and usage, or other such forcible cause, the haire dure with the body. That they be called excrements, it is by reason of their superfluous growth : for cut them as often as you list,
and

and they will stil come to their naturall length) Not in respect of their substance, and nature. Haires endure long, and are an ornament and use also to the body, as trees to the earth.

So that I resolve upon good reason, that fruit-trees well ordered, may live and like a thousand yeeres, and beare fruit, and the longer, the more, the greater, and the better, because his vigour is proud and stronger, when his yeers are many : You shall see old trees put their buds and blossoms both sooner and more plentifully then yong trees by much. And I sensibly perceive my young trees to inlarge their fruit as they grow greater, both for number and greatnesse. Young Heifers bring not forth Calves so faire, neither are they so plentifull to milke, as when they become to be old Kine. No good Houf-wife will breed of a young but of an old bird-mother : It is so in all things naturally, therefore in trees.

The age of
timber trees.

And if fruit-trees last to this age, how many ages is it to be supposed, strong & huge timber-trees wil last? whose huge bodies require the yeers of divers Methushalaes, before they end their daies, whose sap is strong and bitter, whose barke is hard and thicke, and their substance solid and stiffe : all which are defences of health and long life. Their strength withstands all forcible winds, their sap of that quality is not subject to wormes and tainting. Their barke receives seldome or never by casualty any wound. And not only so, but he is free from removals, which are the death of millions of trees, where as the fruit-tree in comparison is little and often blowne down, his sap sweeter, easily, and soon tainted, his barke tender, and soon wounded, and himself used by man, as man useth himselfe, that is either unskil-

unskilfully, or carelessly.

It is good for some purposes to regard the age of your fruit trees, which you may easily know, till they come to accomplish twenty yeares, by his knots: Reckon from his root up an arme, and so to his top-twig, and every yeares growth is distinguished from other by a knot, except lopping or removing doe hinder.

Age of trees
discerned.

CHAP. 15.

Of Gathering and keeping Fruit.

Although it bee an easie matter, when God shall send it, to gather and keepe fruit, yet are they certaine things, worthy your regard. You must gather your fruit when it is ripe, and not before, else will it wither and be tough and sower. All fruit generally are ripe, when they begin to fall. For trees doe as all other bearers doe, when their young ones are ripe, they will waine them. The Dove her Pigeons, the Coney her Rabbits, and women their children. Some fruit tree sometimes getting a taint in the setting with a frost or evill winde, will cast his fruit untimely, but not before he leave giving them sap, or they leave growing. Except from this foresaid rule, Cherries, Damsons, and Bullies. The Cherrie is ripe when hee is swelled wholly red, and sweet. Damsons and Bullies not before the first frost.

Generall Rule.

Cherries &c.

Apples are knowne to be ripe, partly by their colour, growing towards a yellow, except the Leather-coate and some Peares and Greening.

Apples.

Timely Summer fruit will be ready, some at Midsummer, most at Lammas for present use, but generally no keeping fruit before *Michael-tide*. Hard winter fruit and Wardens longer.

When.

Dry stalkes.

Gather at the full of the Moone for keeping gather dry for feare of rotting.

Severally.

Gather the stalkes withall : for a little wound in fruit, is deadly : but not the stumpe, that must beare the next fruit, nor leaves, for moysture putrifies.

Gather every kinde severally by it selfe, for all will not keepe alike, and it is hard to discerne them, when they are mingled.

Overladen trees.

If your trees be over-laden (as they will be, being ordered, as is before taught you) I like better of pulling some off (though they be not ripe) neere the top end of the bough, then of propping, by much, the rest shall be better fed. Propping puts the bough in danger, and frets it at least.

Instruments.

Instruments: A long ladder of light firre : a stoole-ladder as in the 11. Chapter. A gathering apron like a poake before you, made of purpose, or a Wallet hung on a bough, or a basket with a five bottome, or skinne bottome, with Lathes or splinters under, hung in a rope to pul up and downe : bruise none, every bruise is to fruit death : if you doe, use them presently. An hooke to pul boughs to yon is necessary, breake no boughs.

Bruises.

Keeping.

For keeping, lay them in a dry Loft, the longest keeping Apples first and furthest on dry straw, on heapes ten or fourteene daies, thicke, that they may sweat. Then dry them with a soft and cleane cloth, and lay them thin abroad. Long keeping fruit would be turned once in a moneth softly : but not in nor immediately after frost. In a loft cover well with straw, but rather with chaffe or branne : For frost doth cause tender rottenesse.

CHAP. 16.

Of Profits.

NOW pause with your selfe, and view the end of all your labours in an Orchard : unspeakable pleasure, and infinite commodity. The pleasure of an Orchard I referre to the last Chapter for the conclusion : and in this chapter, a word or two of the profit, which thorowly to declare is past my skill : and I count it as if a man should attempt to addelight to the Sun with a Candle, or number the Starres. No man that hath but a meane Orchard or judgement but knowes, that the commodity of an Orchard is great : Neither would I speake of this, being a thing so manifest to all; but that I see, that through the carelesse lazinesse of men, it is a thing generally neglected. But let them know, that they lose hereby the chiefeft good which belongs to house-keeping.

Compare the commodity that commeth of halfe an acre of ground, set with fruit-trees and herbs, so as is prescribed, and an whole acre (say it betwo) with Corne, or the best commodity you can wish, and the Orchard shall exceed by divers degrees.

In *France* and some other Countries, and in *England*, Cyder and Perry. they make great use of Cyder and Perry, thus made : dresse every Apple, the stalke, upper end, and all galles away, stampethem, and straine them, and within 24. houres tun them up into clean, sweet, & sound vessels, for feare of evill aire, which they will readily take : and if you hang a poakefull of Cloues, Mace, Nutmegs, Cinamon, Ginger, and pils of Lemmons in the midst of the vessell, it will make it as wholesome and pleasant as wine. The like usage doth Perry require.

These drinks are very wholesome, they coole, purge, and prevent hot Agues. But I leave this skill to Physicians.

Fruit.

The benefit of your Fruit, Roots & Herbs, though it were but to eat and sell, is much.

Waters.

Waters distilled of Roses, Woodbind, Angelica, are both profitable and wondrous pleasant, and comfortable.

Conserve.

Saffron and Licoras will yeeld you much Conservees and Preserves, are ornaments to your Feasts, health in your sicknesse, and a good helpe to your friend, and to your purse.

He that will not be moved with such unspeakable profits, is well worthy to want, when others abound in plenty of good things.

CHAP. 17.

Ornaments.

ME thinks hitherto we have but a bare Orchard for fruit, and but halfe good, so long as it wants those comely Ornaments, that should give beauty to all our labours, and make much for the honest delight of the owner and his friends.

Delight the
chiefe end of
Orchards.

For it is not to be doubted, but as God hath given man things profitable, so hath hee allowed him honest comfort, delight, and recreation in all the works of his hands. Nay, all his labours under the Sunne without this are troubles, and vexations of mind: For what is greedy gaine, without delight, but moyling, and turmoyling in slavery? But comfortable delight, with content, is the good of every thing, and the patterne of heaven. A morsell of bread with comfort, is better by much then a fat Oxe with unquietnesse. And who

who can deny but the principall end of an Orchard, is the honest delight of one wearied with the works of his lawfull calling? The very works of and in an Orchard and Garden, are better then the ease and rest of and from other labours. When God had made man after his own Image, in a perfect state, and would have him to represent himself in authority, tranquillity, and pleasure upon the earth, he placed him in *Paradise*. What was *Paradise*? but a Garden and Orchard of trees and herbs, full of pleasure, and nothing there but delights. The gods of the earth resembling the great God of heaven in authority, Majesty and abundance of all things, wherein is their most delight, and whether do they withdraw themselves from the troublesome affairs of their state, being tired with the hearing and judging of litigious Controversies? choked (as it were) with the close ayres of their sumptuous buildings, their stomacks cloyed with variety of Banquets, their ears filled and overburthened with tedious discourings? whither? but into their Orchards, made and prepared, dressed and destinated for that purpose, to renew and refresh their senses, and to call home their overwearied spirits. Nay, it is (no doubt) a comfort to them, to set open their Cazements into a most delicate Garden and Orchard, whereby they may not onely see that, wherein they are so much delighted, but also to give fresh, sweet, and pleasant aire to their Galleries and Chambers.

And look what these men do by reason of their greatness and ability, provoked with delight, the same doubtlesse would every of us do, if power were answerable to our desires, whereby we shew manifestly, that of all other delights on earth, they that are taken by Orchards,

An Orchard
delightful.

An Orchard in
Paradise.

Causes of wearisomenesse

Orchard is the
remedy.

All delight in
Orchards.

This delights
all the senses.

Delighteth old
age.

Causes of
delight in any
Orchard.

Flowers.

Borders and
squares.

are most excellent and most agreeing with nature.

For whereas every other pleasure commonly fills some one of our senses, and that onely, with delight, this makes all our senses swim in pleasure, and that with infinite variety, joynd with no lesse commodity.

That famous *Philosopher*, and matchlesse Oratour, *M.T.C.* preferibeth nothing more fit, to take away the tediousnesse and heavy load of three or fourescore years, then the pleasure of an Orchard.

What can your eye desire to see, your ears to heare, your mouth to tast, or your nose to smell, that is not to be had in an Orchard, with abundance of variety? What more delightfome then an infinite variety of sweet smelling flowres? decking with sundry colours, the green mantle of the Earth, the universall mother of us all, so by them bespotted, so dyed, that all the World cannot sample them, and wherein it is more fit to admire the Dyer, then imitate his workmanship, colouring not onely the earth, but decking the aire, and sweetning every breath and spirit.

The Rose red, damask, velvet, and double double province Rose, the sweet musk Rose double and single, the double and single white Rose. The faire and sweet-senting Woodbine, double and single, and double double. Purple Cowslips, and double Cowslips, and double double Cowslips. Primrose double and single. The Violet nothing behind the best, for smelling sweetly. A thousand more will provoke your content.

And all these by the skill of your Gardener, so comely and orderly placed in your Borders and Squares, and so intermingled, that none looking thereon cannot but wonder, to see what nature corrected by Art can doe.

When

When you behold in divers corners of your Orchard Mounts of stone or wood, curiously wrought within and without, or of earth covered with fruit-trees: Kentish Cherries, damsons, Plummes, &c. with staires of precious workmanship. And in some corner (or moe) a true diall or clock, and some Anticke-works, and especially silver-sounding Musick, mixt Instruments and voyces, gracing all the rest: How will you be wrapt with delight?

Mounts.

whence you

may shoot a

Buck.

Diall.

Mnsigne.

Large Walks, broad and long, close and open, like the Tempe groves in Thebely, railed with gravell and sand, having seats and banks of Camomile, all this delights the mind, and brings health to the body.

walkes.

Seats.

View now with delight the works of your owne hands, your fruit-trees of all sorts, loaden with sweet blossomes, and fruit of all tastes, operations and colours: your trees standing in comely order which way soever you look,

Order of trees.

Your borders on every side hanging and drooping with Feberries, Raspberries, Barberries, Currents, and the roots of your trees powdred with Strawberries, red, white and green, what a pleasure is this? Your Gardener can frame your lesser wood to the shape of men armed in the field, ready to give battell: or swift running Greyhounds; or of well sented and true running Hounds to chase the Deere, or hunt the Hare. This kind of hunting shall not waste your corne, nor much your coyne.

shape of men.

and beasts.

Mazes well framed a mans height, may perhaps make your friend wander in gathering of berries til he cannot recover himself without your help.

Mazes.

To have occasion to exercise within your Orchard: it shall be a pleasure to have a Bowling Alley, or rather

Bowling-Alley

Burs. (which is more manly, and more healthful) a paire of Buts to stretch your arms.

Herbes. Rosemary and sweete Eglantine are seemely ornaments about a Doore or Window, and so is Wood-binde.

Conduit. Looke Chapter 5. and you shall see the form of a Conduite. If there were two or more, it were not a misse.

Rivers. And in mine opinion I could highly commend your Orchard, if either through it, or hard by it, there should runne a pleasant River with silver streams: you might sit in your Mount, and angle a peckled Trout or sleighty Eele, or some other dainty Fish. Or moats, whereon you might row with a Boate, and fish with Nettles.

Bees. Store of Bees in a dry and warme Bee-house, comely made of Fir Boards, to sing, and sit, and feed upon your flowers and sprouts, make a pleasant noyse and light. For cleanly and innocent Bees, of all other things, love and become, and thrive in an Orchard. If they (thrive as they must needs) if your Gardiner be skilfull, and love them. For they love their friends, and hate none but their enemies: they will besides the pleasure, yield great profit, to pay him his wages. Yea, the increase of twenty Stocks or Stools, with other fees, will keep your Orchard.

You need not doubt their stings, for they hurt not whom they know, and they know their keeper and acquaintance. If you like not to come amongst them, you need not doubt them: for but near their store, and in their own defence, they will not sting, and in that case onely (and who can blame them) they are deadly, and fight desperately. Some (as that honorable Lady

at *Hacknes*, Whole name doth much grace mine Orchard use to make seats for them in the stone wall of their Orchard, or Garden, which is good, but wood is better.

A Vine overshadowing a seat, is very comely, though her Grapes with us ripe lowly.

One chief grace that adornes an Orchard, I cannot let slip: a brood of Nightingales, who with severall notes and tunes, with a strong delightfome voyce out of a weak body, will bear you company night and day. She loves (and lives in) hots of woods in her heart. She will help you to cleanse your trees of Caterpillers and all noysome wormes and flies. The gentle Robin-red-brest will help her, and in winter in the coldest storms will keep a part. Neither will the silly Wren be behind in Summer, with her distinct whistle, (like a sweet Recorder) to chear your spirits.

The Black-bird and Threstle (for I take it the Thrush sings not, but devours) sing loudly in a *May* morning, and delights the eare much (and you need not want their company, if you have ripe Cherries or Berries, and would as gladly as the rest do your pleasure: but I had) rather want their company than my fruit.

What shall I say? A thousand of Pleasant delights are attended in an Orchard: and sooner shall I be weary, then I can reckon the least part of that pleasure, which one that hath and loves an Orchard may find therein.

What is there of all these few that I have reckoned, which doth not please the eye, the eare, the smell, and taste? And by these senses as Organs, Pipes, and windows, these delights are carried to refresh the gentle, generous, and noble mind.

To

Your own
labour.

To conclude, what joy may you have, that you living to such an age, shall see the blessings of God on your labours while you live, and leave behind you to heirs, or successors (for God will make heires) such a work, that many ages after your death, shall record your love to their Country? And the rather, when you consider (*Chap. 14.*) to what length of time your worke is like to last.

FINIS.

